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## ORIGINAL ARTICLES

### CORONARY OCCLUSION IN GENERAL PRACTICE

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CORONARY OCCLUSION is now a well defined disease entity. The purpose of this paper is to emphasize its *clinical* importance, to outline the symptoms and treatment, and to report four illustrative cases as seen in general practice. For not only is it a frequent cause of sudden death, (often wrongly attributed to "acute indigestion", "ptomaine poisoning" etc.) but, what is of more interest to clinicians, many victims of this accident recover and live useful lives afterwards.

Up to thirty years ago, the diagnosis of coronary occlusion was practically never made except at autopsy. In 1896, Dock of Ann Arbor claimed that he was able to recognize this condition in the living patient. Osler in 1910, J. B. Herrick in 1912, and Sir Clifford Allbutt in 1915 also described it clinically. From my own notes I find that, on March 12, 1916, Dr. George G. Sears saw, in consultation with me, a case which he diagnosed as "coronary thrombosis" and distinguished from the ordinary angina of effort by the fact that the pain was prolonged and did not yield to nitrites. Incidentally this patient lived for two years and died of influenza pneumonia. More recently the excellent contributions of Herriek, Libman, Pardee, Gordinier, Longcope, Riesman, Gorham, Wearn, Levine, Hamilton and others have combined in giving us a much clearer conception of the disease. Vaquez, in his book on Diseases of the Heart, devotes three pages to "Thrombosis of the Coronary Arteries"; but, as a rule, one finds very little about this condition in the text-books. One of the most interesting articles, that I have seen, was read before the Philadelphia County Medical Society by Dr. J. B. Herriek of Chicago, and may be found in The Weekly Roster and Medical Digest of May 23, 1925.

Three types of this disease are usually spoken of:—(1), where death is sudden and may be painless, (2), where death occurs in a few hours, days or weeks, and (3), where the patients recover and are able to return to limited work. It is this last group that especially interests us, and has stimulated the writing of this paper.

**Pathology.** The constant finding is a sclerosis of the coronary arteries. This is the cause of a roughened area on the inner coat, upon which

a thrombus forms and grows until it plugs the vessel. The result of this is a shutting off of the blood supply to a patch of myocardium, producing ischaemia followed by necrosis, in other words, an infarct. If the infarct is not too extensive, this will finally be replaced by fibrous tissue and a firm scar will result. In other cases an aneurysm may form, or the muscle may rupture and cause sudden death.

The *etiology* of Coronary Occlusion is that of arterio-sclerosis in general. None of the infectious diseases, or syphilis, rheumatism, hyperthyroidism, diabetes, excesses in alcohol or tobacco are found as frequent causative factors. Most of the cases occur after 40 years of age, and are more common in men just as ordinary angina is. There may have been no previous indications whatsoever, but often, on very close inquiry, there will be obtained a history of slight attacks of pain or constriction or dyspnoea on effort.

**Symptoms.** The onset is sudden, and the most striking symptom is *persistent* and often *severe* pain beneath the sternum or in the epigastrium. This may radiate into one or both arms, the neck, and rarely to back or abdomen. In one patient it was localized in the left elbow, and another complained bitterly of his "back teeth". It frequently occurs without effort, indeed often during sleep, thus differing from ordinary angina. It may persist for hours (even in spite of repeated doses of morphia),—constituting the so-called status anginosus,—or it may recur for days, while the patient is absolutely at rest in bed. In rare instances there is no pain at all, only a sudden dyspnoea and collapse, with rapid feeble pulse and drop in blood pressure. Nausea and vomiting may accompany the pain, with abdominal distention and muscular spasm, simulating an acute surgical condition. There may be delirium and, rarely, coma.

**Physical Signs.** The first glance usually shows a patient in grave shock, with anxious facies, ashy color, clammy skin, and weak rapid pulse. The *Heart* area is generally enlarged and the apex beat is not seen or felt. The sounds are feeble and rapid and often tie tac in quality. Extra systoles and gallop rhythm are common. Alternation and auricular fibrillation may occur later with congestive failure. A systolic mur-

mur may be heard that was not previously present. A circumscribed *pericarditis* (due to the extension of the infarct to the heart surface) occurs in a small percentage of the cases, but when found, is a most valuable sign. It may be very fleeting, and should be constantly watched for in a suspected case. Examination of the *Lungs* generally shows oedematous rales at the bases, and sometimes more marked signs of congestion. The *Liver* may be enlarged and tender. In the extremities, evidence of embolism may be found, but oedema is not common. The urine shows nothing characteristic. The *Temperature* is often elevated to anywhere from 100 to 102°F., and the fever may persist for several days to a week. A *leucocytosis* of 15000 to 20000 is practically always present, and is a most important sign. It can usually be found within a few hours of the onset and may last a week or two. The fever and leucocytosis, which are probably caused by the absorption of necrotic material in the infarct, are never present in ordinary uncomplicated angina. The *Blood Pressure* is comparatively low, and, if previous readings are known, a striking fall is seen to have occurred,—a most important point in diagnosis, and one that emphasizes the value of keeping blood pressure records. The *Electrocardiograph* shows variations from normal, that are said to be more or less typical, but is, of course, only available in a hospital.

**Differential Diagnosis.** In ordinary angina pectoris the pain is of short duration, (a few minutes perhaps,) is usually provoked by effort, and is quickly relieved by rest and nitrites. In coronary occlusion, the pain lasts for hours or days, irrespective of exertion, and is controlled with difficulty even by large and repeated doses of morphia; and then it may disappear for a few days and recur at intervals. In coronary occlusion the heart is usually rapid and weak, and the blood pressure drops; in ordinary angina, the rate does not change, and the pressure is higher or unchanged during the attack. In coronary occlusion, fever and leucocytosis are generally present; in the ordinary angina, both temperature and white count are normal. **Acute Gall Bladder:**—In Coronary Occlusion, there may be epigastric pain, tenderness, and muscular spasm, accompanied by nausea and vomiting, and it may be impossible to differentiate these two conditions, indeed both may be present at the same time. However, a previous history of effort pains, a sudden drop in blood pressure, with feeble, rapid heart sounds, and perhaps a pericardial friction rub, would point to coronary occlusion. Then, too, pain in the latter is more apt to radiate into the arms, while, in gall bladder disease, it goes through to the back.

Perforating ulcer of the stomach and duodenum, acute pancreatitis, pneumonia, pleurisy

and crises of tabes must be considered and ruled out by a careful history and examination.

**Prognosis.** This of course depends on the size of the infarct. But the important thing to remember is, many cases *do* recover and return to work. Moreover, it is an interesting fact that, whereas before their coronary occlusion, many of these patients suffered from angina attacks, following this accident, they have a lower blood pressure, and are free from the usual paroxysms. This is also significant in studying the cause of angina pain.

**Treatment.** It is generally conceded that the healing of a cardiac infarct takes at least six weeks. Until that period has passed, and especially around the end of the first 8 or 9 days, when the damaged area begins to soften, there is always danger of rupture or acute dilatation. Therefore, absolute rest in bed for six weeks as a minimum should be insisted upon. That necessitates good nursing care for the patient's comfort, the use of the bed pan, etc., and the avoidance of all mental and physical exertion. The diet should be light, and the bowels kept free so that there will be no straining. Opiates must be given liberally to relieve pain and anxiety. The nitrites have no effect. Stimulants are best avoided. Digitalis should be reserved for signs of congestive failure. Diuretin is thought by some to relieve pain and improve coronary circulation. Caffeine and camphor may be employed in complete collapse. The operation of sympathectomy is contra indicated if there is any question of a recent coronary infarct.

**CASE 1—M. E.**, a business man of 51, was playing billiards down town on November 14, 1924, when he was suddenly seized with an agonizing pain beneath his sternum, marked dyspnoea and a fear of impending death. He was removed in an ambulance to the Relief Hospital and, three days later, to his own home. When seen soon after his arrival, he was still complaining of precordial pain, and was unable to lie down because of dyspnoea.

**Family History**—Father died at 56 of an accident, mother at 44 of child-birth, and one brother at 44 of gastric haemorrhage.

**Previous History**—Renal calculus and nephrectomy in 1915. Neisserian infection in 1916. Grip, tonsillitis and carbuncles at different times. Systolic blood pressure, during last ten years, ranged from 160 to 180.

**Physical Examination**, November 17, 1924, three days after the onset—A stout man, orthopaedic, with anxious facies and leaden color. Pulse weak and rapid (120). Temperature 100.3, respiration 32. Heart moderately enlarged to percussion; apex beat not seen nor felt. Sounds faint, no murmurs, regular, no gallop rhythm. Blood pressure 140 systolic, and 100 diastolic. White count 20,000. Wassermann reaction negative.

The treatment instituted in this case was absolute rest in bed with nursing care, deodorized tincture of opium for pain, and Luminal at night. The temperature remained slightly elevated for two weeks. The pulse dropped to 90 in four days, and respiration to 20. The blood pressure fell to 110 over 70, and remained thereabouts for four weeks, and then began to creep up. Patient gained steadily. On January 8 he began to sit up a few minutes in bed, and on Jan-

uary 29 he walked into another room. On January 31 he had an acute attack of dyspnoea and oedema of the lungs. He was put back to bed for two weeks, then gradually gotten up again. He went out walking March 1, and back to business April 1. He has been active ever since as a travelling salesman, driving his Ford car 75 to 100 miles a day. When seen last on January 22, 1926, he looked and felt well, no longer experienced any pain or distress, and only very slight dyspnoea when he hurried. Examination of the heart was negative. The blood pressure was 150 over 90.

CASE 2—H. W. J., aged 52, a merchant, was first seen June 3, 1925.

Family History—Father and mother both died at 75 of stroke. One sister has hypertension and chronic arthritis.

Previous History—Mumps. Denies venereal and alcohol. Indigestion and gas for years. Has worked hard all his life. Distress at night in last two years, and some dyspnoea on exertion. Examination February 28, 1925, showed blood pressure 170 over 100.

Present Illness began about midnight June 2, 1925, with epigastric pain, "like indigestion." Next morning he was comfortable, and physical examination was negative. On June 5 he went to town, and had great difficulty in getting home on account of dyspnoea, a catchy pain beneath the sternum and extreme weakness. That night he had to sit up all night, and when seen next morning was still suffering pain and unable to lie down.

Physical Examination—Temperature 99.5, pulse 100, weak and irregular. Blood pressure 105 over 70. Heart slightly enlarged; sounds feeble and irregular; no murmurs, no friction sounds. Lungs negative. Abdomen, some tenderness and muscular spasm in epigastrium. Liver not palpable. White count 19,200. Urine negative.

Morphia was given freely to this patient to relieve his pain and enable him to lie flat in bed. This was necessary for the first week, but after that he was perfectly comfortable, and made an uninterrupted recovery. For two weeks he ran a slight evening temperature. His pulse staid around 90. His blood pressure gradually increased, until on June 30 (four weeks after the onset of his attack) it was 150 over 90. On July 28 he began to get up, and early in August he was taken to the sea-shore, where he lived quietly the rest of the summer. On October 31 he reported that he had been very well and doing his regular work with caution. He had just returned from a hard business trip in Maine. He suffered no pain nor dyspnoea, except on running up stairs, when he had a little shortness of breath! His color was good. Heart slightly enlarged, sounds normal, no murmurs, rate 82. Blood pressure 155 over 100.

CASE 3—H. A. W., a business man of 62, had, until the present illness, enjoyed exceptionally good health. About 12 years ago he was operated upon for acute intestinal obstruction due to a Lane's Kink, and made a perfect recovery. Had grip and tonsillitis several times. Denies venereal, is the father of eight children, and uses neither alcohol nor tobacco. Has never had any dyspnoea or effort pain. On January 31, 1925, he showed a blood pressure of 190 over 110, and diseased tonsils, which were removed in July without trouble, and he felt fine afterwards.

Family History—Father died of T. B. at 38. Mother died at 56 of "aneurysm of the aorta."

Present Illness—On October 17, 1925, while walking from the street car a short distance to his home, he was suddenly seized with intense substernal pain and constriction, so that he had to "pump for breath." He barely managed to reach the house, and fall into a chair, unable to speak. The pain extended into the middle of the left upper arm, "as if into the bone." There was no nausea nor vomiting. About an hour

later, when first seen, the pain had partially subsided. His color was good, and there were no signs of shock or dyspnoea. Heart slightly enlarged to percussion, apex beat not seen or felt, sounds weak but regular, no murmurs, rate 100, aortic 2nd accentuated. Lungs negative. Liver not palpable. Blood pressure 130 over 80. Temperature 99.3. White count 15,000. Urine 1018, no albumin, no sugar, sediment negative. The pain lasted for three days in spite of opiates. The temperature was normal after the fourth day. The blood pressure varied from 120 over 70 to 140 over 80. A leucocytosis of 17,000 to 18,000 persisted for two weeks, then gradually fell. Patient got up at the end of six weeks, gained steadily and returned to business.

CASE 4—L. C. C., a retired business man of 68 years of age.

Previous History—Two years before the present attack had signs of an arterio-sclerotic heart. B. P. 165/100. Had been feeling well all summer, playing 18 holes of golf every day up to the day before his attack. Recently, however, he had noticed a little "tightening of the throat" on going up a steep incline, and once or twice a slight substernal pain.

Present Illness began November 11, 1925. He was waked up out of a sound sleep by a constriction and a burning in his throat, followed by an agonizing substernal pain, extending into his left arm. Examination showed a man with anxious facies and cold, clammy skin. The heart sounds were weak but regular. No oedema of the lungs. Temperature 98.2, pulse 60. B. P. 130 over 70. Next day the white count was 15,400. Urine 1012, no albumin, no sugar, sediment negative. Attacks of terrifying pain kept recurring at irregular intervals, in spite of opiates by mouth and frequent hypodermics of morphia. For three days, preceding the last, he was practically free from pain. On November 29 there was a slight rise of temperature, and the B. P. dropped to 100 over 60. Suddenly at 6:40 A. M. on November 30, 19 days after the onset, he died in his sleep.

#### SUMMARY

The important facts, which this paper has attempted to emphasize, are as follows:—

Coronary occlusion is *not* a rare disease in general practice. The diagnosis is generally easy, the treatment is plainly indicated, and the prognosis is fairly hopeful. From the standpoint of treatment, it is highly important to distinguish it from the ordinary angina of effort, from the different acute affections of the upper abdomen, and from those doubtful conditions often described in the newspapers as "acute indigestion", "ptomaine poisoning", etc. The picture of a typical case should be kept clearly in mind. A man, around middle life, is suddenly stricken, perhaps in his sleep, with an intense substernal or epigastric pain that *lasts* and is not relieved by nitrites or even by ordinary doses of morphia. Signs of grave shock are present, anxious facies, ashy color, clammy skin and rapid, feeble pulse. The heart sounds may be irregular or tie tac in quality. A pericardial rub is sometimes found, and is then pathognomonic. The blood pressure is comparatively low, and, if previous readings are known, a decided drop has evidently occurred. The temperature will probably be found elevated, and the leucocytes are increased. A patient with such symptoms should be put

to bed, and made as comfortable as possible with opiates. If the insult to the heart be not too great, he may survive the immediate shock. If he is kept absolutely quiet in bed for at least six weeks, with good nursing care, the infarct is

given the best chance to heal, and the patient, the best chance to recover. Moreover, if he has been a sufferer from chronic angina, and hypertension, he may be relieved from both by his coronary occlusion!

## STUDIES IN LIVER FUNCTION

### VI. Quantitative Methods For Determining the Cholesterol and the Alcohol-Soluble and Insoluble Bile Pigments of the Duodenal Contents

BY C. W. McCLURE, M.D., AND MILDRED E. HUNTSINGER, B.S.C.

THE present communication describes two new methods for quantitating substances present in the bile fraction of duodenal contents. One of the methods relates to the determination of cholesterol and the other to a bile pigment.

Previous investigations<sup>1</sup> served to show the significance in relation to the functional state of the liver of bile pigment and cholesterol concentrations in the biliary fraction of duodenal contents. With the exception of that for cholesterol, the methods (2-3) reported for the examination of duodenal bile were the most simple, technically, which the authors could devise and still retain quantitative accuracy. The same holds true for the new bile pigment method to be reported in this communication. But it has been found possible to simplify the technique of the method for quantitating cholesterol<sup>2</sup>, and this will be described

#### METHOD FOR QUANTITATING CHOLESTEROL

**Reagents.** Ninety-five per cent grain alcohol, anaesthetic ether and chloroform of U. S. P. grade are used. The additional following reagents are to be chemically pure: cholesterol, sulphuric acid, acetic anhydride, anhydrous sodium sulphate, potassium permanganate, potassium metabisulphite (powdered).

(A) Alcohol-ether-chloroform mixture. Fill a mixing cylinder, graduated to 100 cc., to the 75 cc. mark and make up to the 100 cc. mark with ether and mix. Decant 15 cc. of this mixture and fill up to 100 cc. mark again with chloroform.

(B) Permanganate solution. This is prepared by dissolving 4 gms. of potassium permanganate in 100 cc. of distilled water and preserving in a brown glass stoppered bottle in the dark.

(C) Cholesterol solution. Dissolve 0.200 gm. of cholesterol in chloroform in a 200 cc. volumetric flask and make up to the mark with chloroform. From this stock solution, prepare three standard solutions by diluting 10, 20 and 30 cc. of the stock solution to 100 cc. with chloroform in 100 cc. volumetric flasks. These standard solutions contain respectively 0.5, 1.0 and 1.5 mgms. of cholesterol in 5 cc.

**Apparatus.** Glass stoppered mixing cylinders graduated to 100 and to 10 cc.; 10 and 5 cc. volumetric pipettes, Folin 15 cc. capacity blood

pipettes. Lipped Pyrex glass beakers of 100 cc. capacity. Glass funnels of 5 cm. diameter with filter paper to fit. Duboseq colorimeter with 5 cm. cups.

**Method.** Fill a 100 cc. capacity mixing cylinder to the 50 cc. mark with the alcohol-ether-chloroform mixture and pipette into it 10 cc. of duodenal contents, stopper and shake vigorously for two minutes. Next add, with a volumetric pipette, 5 cc. of the permanganate solution; mix by shaking and allow to stand for 5 minutes. At the end of this period add approximately 10 gms. of potassium metabisulphite, shake vigorously and allow to stand 5 minutes with occasional shaking. Next add approximately 12 gms. of anhydrous sodium sulphate and shake vigorously for one minute. Allow the liquid portion to clarify by sedimentation, which requires but a few minutes, filter and then pipette 15 cc. into a beaker of 100 cc. capacity. Evaporate to apparent dryness on the steam bath, add about 15 cc. of chloroform and scrape up the usually viscous residue with a glass rod. Boil down the chloroform to a volume of about 5 cc. on the electric hot-plate. Cool by placing the bottom of the beaker in cold water for a few seconds and then filter through the small dry filter paper into a cylinder of 10 cc. capacity. Repeat the extraction once, pouring through the same filter paper into the cylinder, and make up to the 10 cc. mark with chloroform. Mix and pipette 5 cc. into a clean dry test tube. To this add 2 cc. of acetic anhydride, mix, and 0.1 cc. concentrated sulphuric acid, mix, and place in the dark for 30 minutes. The three standard solutions are prepared in the same way and at the same time as the unknown.

For purposes of comparing the depth of color in the unknown, use the standard in which the color developed most nearly matches that of the unknown. The index of concentration is expressed as the number of milligrams of cholesterol per 100 cc. of duodenal contents; and may be obtained by using the following formula.

$$\frac{Sr}{R} \times St \times \frac{65}{15} = \text{represents number of milligrams of cholesterol per 100 cc. duodenal contents.}$$

*Sr* represents the reading on the scale at which the standard solution is placed. *R* represents the reading on the colorimeter scale of

the unknown. *St* represents the milligrams of cholesterol in the standard solution used. 63 represents the total number of cubic centimeters of the mixture of duodenal contents alcohol-ether-chloroform and permanganate solution. 15 represents the number of cubic centimeters of this mixture used for the analysis.

ISOLATION AND DETERMINATION OF THE ALCOHOL-SOLUBLE FRACTION OF THE BILE PIGMENT MOIETY OF DUODENAL CONTENTS

*Method.* The method to be described represents procedures for separating and quantitating two classes of pigments found in normal bile. The separation is based on the divergent solubilities of these pigments. One class has been found to be insoluble, while the other is readily soluble in alcohol. The necessary reagents are as follows. Chemically pure powdered calcium hydrate. *Ninety-five per cent grain alcohol* which must be redistilled. *HCl solution.* This is prepared by adding 25 cc. of the usually pure solution of ordinary HCl to 75 cc. of distilled water. *Magnesium Sulphate solution.* This is prepared by dissolving 25 gms. of crystalline  $MgSO_4 \cdot 8 H_2O$  in 100 cc. of distilled water. *Chromate solution.* This is prepared by dissolving exactly 1.000 gram of chemically pure potassium dichromate in distilled water in a one litre volumetric flask. *Sodium sulphite solution.* This is prepared by adding a large excess of chemically pure anhydrous sodium sulphite to about 5 cc. of distilled water in a test tube, shaking vigorously, allowing to settle for a few minutes and then filtering.

The apparatus required is as follows: test tubes, 15 cc. capacity centrifuge tubes; the usual type of mixing cylinder, graduated to 50 cc.; a Duboseq colorimeter; a centrifuge.

PROCEDURE

With a duodenal contents of yellow color, pipette 10 cc. of the same sample into a 15 cc. centrifuge tube. If the material is dark brown, use but 5 cc. and if a very dark brown color, reduce the sample to 3 cc. Add sufficient distilled water to make a volume of 10 cc. Next add 2 cc. of  $MgSO_4 \cdot 8 H_2O$  solution and mix. Approximately one gm. of the dry and finely powdered calcium hydrate is then added and mixed thoroughly. Centrifuge until the supernatant fluid is clear. This fluid should be entirely colorless. If it is not the preceding steps are to be repeated using less of the duodenal contents. Decant the colorless supernatant fluid. Add 5 cc. of distilled water to the precipitate, mix with a glass rod, add 5 cc. of the mixture of one part of HCl and three parts of distilled water, and again stir until the calcium hydrate has all dissolved. In event that the amount of acid used does not dissolve all visible particles of calcium hydrate, add one

or two drops of concentrated HCl. Wash off the rod with water and centrifuge until the supernatant fluid is opalescent. This fluid should not give a color reaction with the sulphanilic acid-nitrite mixture described in a previous communication<sup>4</sup>. Again decant, add 10 cc. redistilled alcohol, mix the precipitate with the alcohol, grinding up the flocculent particles, and again centrifuge until the supernatant fluid is clear. Repeat this process of washing three times. The alcohol from the third washing contains no more than a trace of pigment as shown by the sulphanilic acid-nitrite reaction mentioned above. The quantitation of the pigment contained in the precipitate remaining in the centrifuge tube may be accomplished by the method already reported<sup>4</sup>. The alcoholic pigment solution in the mixing cylinder is made up to 40 cc. with redistilled alcohol, and the contents thoroughly shaken. Ten cc. of this mixture are added to 5 cc. of distilled water in a 15 cc. centrifuge tube, the contents mixed and then one or two drops of the approximately saturated solution of sodium sulphite added and the contents of the tube vigorously shaken. The tube is then allowed to stand for fifteen minutes, at the end of which time it is clarified by centrifugalization. The color developed is then compared in the Duboseq colorimeter with the standard chromate solution. The pigment concentration is expressed in milligrams per 100 cc. of duodenal contents, considering the standard chromate solution to represent in bile pigment concentration the equivalent to 0.08 mgms. of biliphen in 5 cc. of chloroform. This concentration may be determined by the following formula.

$$\frac{SR}{R} \times \frac{48}{A} = \text{mgms. of pigment per 100 cc. of duodenal contents.}$$

*SR* represents the reading of the standard solution on the colorimeter scale.

*R* represents the reading of the unknown solution on the colorimeter scale.

*A* represents the number of cc. of duodenal contents used.

DISCUSSION

The method proposed for cholesterol obviates the technical difficulty of drying and heating the residue, described in the first method<sup>2</sup> published for the determination of the substance in duodenal contents. The results obtained by the two methods are similar. The estimation of cholesterol in the bile fraction of duodenal contents has proved very valuable in the determination of the functional state of the liver; and for this reason it was considered necessary to devise as simple a technical procedure as possible.

In the method for the estimation of the alcohol soluble pigment, the precipitate gained from the final centrifugalization contains a negligible

amount of pigment; when the method has been properly performed. However, if all the alcohol insoluble pigment has not been removed, through sufficient centrifugalization the sediment will contain appreciable quantities of pigment.

The alcohol soluble pigment is always present in the duodenal contents unless bile has been completely excluded from the intestines. The limits of variation of the concentration of the alcohol soluble fraction of the bile moiety of duodenal contents have been found to be from 8 to 23 mgms. In the presence of liver functional disturbance, the concentration of this pigment has been found to vary entirely independently of the concentrations of the other biliary constituents, including that of the alcohol insoluble fraction of pigment. Under treatment of the liver, the alcohol soluble pigment will usually increase to normal amounts before the alcohol insoluble fraction shows such an increase. On the other hand, it may increase to normal limits and the insoluble fraction not reappear; or the alcohol insoluble pigment may be greatly diminished or absent while the alcohol soluble fraction is not reduced in amount. The chromate solution used as a standard gives exactly the same depth of color in the Duboseq colorimeter as is given by eight hundredths (0.08) of the milligram of bilirubin (biliphain) dissolved in 5 cc. of chloroform. On this basis the chromate solution has been considered to represent a concentration equivalent to 0.08 mgms. of bilirubin. The chromate standard is considered to be as useful a standard as one made from bilirubin (biliphain). This is for the reason that the authors know of no method for preparing a pure bile pigment, or mixture of pigments. Certainly the bilirubin (biliphain) on the market is not a pure preparation of pigments, and the authors have not been able to make a pure preparation. This lack of a pure

preparation for use as a standard does not detract from the value of the pigment methods proposed for use in evaluating the liver's functional state.

The development of the new methods here described allows the furfural reacting bodies, the cholesterol concentration and the concentrations of both the alcohol-soluble and insoluble pigments and the total pigments of duodenal contents to be quantitated. In addition, previous work<sup>5</sup> has established the character of a standard normal duodenal bile, through the use of the duodenal tube and stimulation of the liver with oleic acid. The use of these procedures and methods permits the detection of functional disturbances of the liver at a time when all other methods have failed so to do; and, in addition, gives a far more comprehensive conception of such disturbances than is usually gained by other procedures.

No attempt has so far been made to work out the physiology of the alcohol soluble fraction of the bile pigments. This fraction is always present in the bile of duodenal contents of person, even after excision of the gall bladder. It is also found in bile collected from the common bile duct of dogs and cats, both with the gall bladder intact and after the excision of that organ. This fraction of the bile pigments is, therefore, a constituent of normal liver bile.

#### REFERENCES

- 1 McClure, C. W., and Vance, E.: Boston Med. and Surg. Jour., 1925, CXCII, 432.
- 2 McClure, C. W., Huntzinger, M. E., and Gottlieb, J.: Boston Med. and Surg. Jour., 1925, CXCIII, 1024.
- 3 McClure, C. W., Mendenhall, W. L., and Huntzinger, M. E.: Jour. Am. Med. Assn., 1925, LXXXV, 1537.
- 4 McClure, C. W., and Mortimer, E.: Boston Med. and Surg. Jour., 1925, CXCIII, 435.
- 5 McClure, C. W., Vance, E., and Greene, W. C.: Boston Med. and Surg. Jour., 1925, CXCII, 431.
- 6 McClure, C. W., Huntzinger, M. E., and Montague, O. C.: Boston Med. and Surg. Jour., 1925, CXCIII, 1050.
- 7 McClure, C. W., Mendenhall, W. L., and Huntzinger, M. E.: Boston Med. and Surg. Jour., 1925, CXCIII, 1052.
- 8 McClure, C. W., Huntzinger, M. E., and Montague, O. C.: Boston Med. and Surg. Jour., 1925, CXCIII, 1050.
- 9 McClure, C. W., Mendenhall, W. L., and Huntzinger, M. E.: Boston Med. and Surg. Jour., 1925, CXCIII, 1052.

### MASSACHUSETTS TUBERCULOSIS LEAGUE 1925-1926

#### The President's Address—Report of Progress\*

—BY KENDALL EMERSON, M.D., F.A.C.S.

It is with the keenest pleasure that the Massachusetts Tuberculosis League extends a welcome to our distinguished visitors representing the National Tuberculosis Association, and to those members of the State and local Health Departments who have honored us by their presence at this meeting. Your President wishes also to offer a most hearty greeting to the Officers and Directors of the League itself and to the large number of directors and members of the Affiliated Organizations throughout the State. It is a further pleasure and satisfaction to see here

so many social service workers in other fields than that in which the Tuberculosis League is primarily interested. It is an indication of their broad sympathies and at the same time of the recognized inter-relationship of all branches of health and social work.

At this time it is customary for the President of the State League to render an account of his stewardship and to make a report to the League on the state of that part of the Nation over which our activities extend. His report will be brief, touching a few of the outstanding events of the year but leaving to the Executive Secretary and the Educational Secretary the duty of

\*Read at the annual meeting of the Massachusetts Tuberculosis Association, April 26, 1926.

reporting the League's activities and accomplishments.

My first note must be one of sadness, for we have suffered a serious loss in the death of our Honorary Vice-President, Dr. Eugene R. Kelley, Director of the State Department of Health. In this teeming, jostling world every man has many acquaintances but few friends. Likewise organizations have individuals who are mildly interested in their survival and prosperity, but few real friends who are willing to sacrifice themselves and give of their overcrowded time to further that prosperity. Dr. Kelley was such a friend to our League, never too busy to give us of his guiding counsel, never failing to render full measure of praise and encouragement. The League mourns his loss in common with the many others to whom his life meant much.

It is a solace to find in Dr. Kelley's successor a man possessed of similar ideals and of like breadths of sympathy with our work. Dr. Bigelow has consented to serve as an Honorary Vice-President of this League and has been duly elected to that office. It is our very great pleasure today to welcome him to our meeting and to acknowledge gratefully his expressed desire for a continuance of that close contact with the Health Department which has proved so valuable to us in the past.

Last September Mr. Robert V. Spencer who had served the League faithfully as Executive Secretary for seven years, resigned to take up other work. Without question the reorganization of the State League and the rapid increase in our resources accruing from the Seal Sales was due to his devotion and indefatigable work on behalf of the organization during those seven years. He bequeathed to his successor as the fruit of his energy an association of local societies, working in at least potential harmony, which is capable of rendering inestimable service to this community.

In order to make that potential harmony dynamic it was necessary to secure an Executive Secretary possessed not only of energy and enthusiasm equal to Mr. Spencer's but also of experience and tact in smoothing out the many wrinkles bound to occur among groups from different localities and with somewhat different policies, though all working for a common end. It is a source of some gratification that there was no lack of candidates for the position when it became known that it was vacant. It is, therefore, a special pleasure for me to welcome to his first Annual Meeting our new Executive Secretary, Mr. Frank Kiernan, who in the opinion of the Executive Committee was the candidate best equipped to carry on the exacting duties of the office.

The strength of the League depends on that of the affiliated organizations of which it is composed. By vote of these a year ago our financial

wings were clipped about thirty-three and a third per cent. On that action the League could put but one interpretation, namely that the affiliated organizations felt themselves strong enough to take over the expanding duties in connection with the Statewide fight against tuberculosis and chose to limit the League program largely to administrative work at the office rather than to an increase of its activities in the field. The executive committee has endeavored to carry out this mandate. Up to the present we have taken on no new operations. We have tried through our Executive Secretary to place our resources freely at the disposal of the local organizations, to aid them in counsel and through conferences in the solution of their problems, to make the work of each branch familiar to all the others, to put our services at the command of all in forwarding the seal sale, to harmonize differences where possible and to act as the connecting link with the National Tuberculosis Association, and thus with anti-tuberculosis work throughout the world.

Whatever measures of success we may claim in our efforts can be gauged by two achievements, a notable increase in peace and harmony among the members of our large family and the healthy growth of the seal sale of 1925 over those of preceding years. In other words we have increased the sinews of war and organized a more united front against the enemy. Our educational work, a report of which you will hear from our able Secretary, has expanded and added to its scope in spite of the fact that no additional expense has been incurred. Our close and friendly relation with the State and local Health Departments has been continued and the bonds tightened, especially in connection with the splendid "Ten Year Program" of the State organization.

The League has looked with sympathetic interest on the rapid development of summer health camps for underdeveloped school children in various localities. We have endeavored to pool the experiences of the several camps for the common good and to that end held a recent conference in Worcester on the subject of summer camp administration at which more than forty representatives of the various sections of the State were present. The resulting discussions proved of interest and value in systematizing methods of procedure in the organization of such camps. The National Association, if I understand its position aright, does not look with entire favor on our development of the summer camp projects. The argument against the scheme lies in the belief that our resources could be more effectively devoted to other educational activities which would reach a larger number of those in need of the services which we are capable of rendering. I am inclined to agree with this position. The camp as conceived and

as it works out is of inestimable value and in my opinion has come to stay. Insofar as the Affiliated Associations of the League have been instrumental in organizing such undertakings we have rendered a service of value to our communities and to the State. But the projects are based on service to only a small portion of the community, namely such undernourished school children as we can accommodate, which is but a fraction of the number in need of such service. Now that we have demonstrated the value of vacation camps for school children let us see if we cannot turn them over to the School Departments or Health Departments of our various communities. The health camp idea should be capable of a wider and more inclusive development with public resources to draw upon than when financed from our limited means.

In order to keep the various local organizations in touch with each other, the League and the National Association, we have been publishing several times a year a *Health Journal* dealing with State activities. This has been a considerable expense to the League. We have not felt that with our lessened income this service could either be expanded or maintained at its previous level. A canvass of the various local associations, however, has revealed the fact that this little publication fills a real need and is of definite service. For this reason it has been decided to issue the *Journal* in the future as in the past but in simpler form and less frequently.

There are two problems that have arisen recently looking toward the expansion of our work. The Heart Association has asked us to consider its affiliation with the League. Inasmuch as heart disease has exceeded tuberculosis as a cause of death the study of its causes and prevention becomes one of lively interest to the public. With our organization it would seem that we might add to our usefulness by such an affiliation as that suggested. Lung clinics which we now hold would then become chest clinics, the heart examination and education in heart hygiene being a naturally related line of preventive medicine. It is the inclination of the Executive Committee to consider favorably this suggestion on the part of the Heart Association, an inclination I believe favored by the National Association, New York having already taken this step.

The second department of new work under consideration is our coöperation with the pre-

ventive work being organized against diphtheria. This has not as yet reached a point where any definite decision can be announced. Suffice it to say that the work has to the fullest extent the sympathy and interest of our League and if proper methods of coöperation can be found it would appear to be our duty to expand our preventive work along these lines as well. To be of continued service to the community we cannot stand still or retrogress. We must grow. Growth along the lines of general preventive medicine is logical. Pooling our interests means greater power to all and better health conditions in Massachusetts which is our single aim.

In the interest of economy a move was set on foot last fall to change our offices from the Little Building to a less expensive locality. No place was found comparable in convenience and such as were investigated yielded little actual saving in rental. At present we have the immense advantage of central location. To our offices each month come scores of visitors in search of information or assistance of one kind or another. We feel that being in the heart of the city is an asset to the League worth far more than the small saving that would accrue from moving to a less accessible region.

However, economy has been the watchword in the program of your Executive Committee this year and will continue so to be. As already explained our work is chiefly administrative. As such the salary list is necessarily large in proportion to our total expenditures. This has been cut as far as opportunity will permit and may be still further reduced, although we feel that we have probably struck bed rock if we are to continue the indispensable service now accorded to the affiliated organizations, and maintain even our slender educational program as at present.

Finally, what is the outlook for the years 1926 and 1927? From the foregoing it is evident that no phenomenal increase in our work is to be expected. Good foundations have been laid. On them we hope to build securely a growing organization that shall have as its object the betterment of health conditions in our State through the enlistment of wider interest on the part of the public in the work we are doing and through continued close coöperation with those official agencies into whose hands has been committed the task of maintaining a high standard of health among all the people of this great Commonwealth.

## THE BROADENING OF THE TUBERCULOSIS PROGRAM\*

BY LINSLEY R. WILLIAMS, M.D.

A NUMBER of anti-tuberculosis societies were organized in the United States prior to the end

\*Read at the annual meeting of the Massachusetts Tuberculosis Association, April 26, 1926.

of the last century and a marked impetus was given to the anti-tuberculosis movement by the organization of the National Tuberculosis Association in 1904. Neither at the time of its or-

ganization nor at a later date has any fixed policy been determined. No specific action was taken on a policy and wisely so because it was known that new discoveries might bring about changes in activity and that the policies should not be fixed. Activities were undertaken, however, and the chief one undertaken was the dissemination of knowledge to interest the people in the subject of tuberculosis and to inform them of the vast toll of mortality which it caused annually, the enormous amount of suffering and the frightful economic loss due to its ravages and the cost of caring for persons affected with the disease. The activities of the Association increased as larger sums of money were made available for its work and these activities were always based upon the latest scientific information.

The easy method of detecting the tubercle bacillus announced to the world by Koch in 1882 and the definite hypothesis of its communicability demonstrated by Koch shortly thereafter gave the first real scientific basis for a program. Following his work were the important researches of Pflugge and Cornet who demonstrated a method by which the tubercle bacilli were transferred from one individual to another. They insisted that all persons affected with tuberculosis received the tubercle bacilli through inhalation and as persons in the advanced stages of tuberculosis coughed up myriads of bacilli that these individuals were the most dangerous to the community. Based on their work Newsholme in England urged the importance of hospital care for tuberculosis patients. Somewhat later in 1903 Von Behring, Calmette and others demonstrated the fact that tubercle bacilli might enter the bodies of infants and that the disease might remain latent during adolescence. This theory although combatted at first, rapidly gained ground and after the general acceptance of Von Pirquet's test, discovered in 1907, it was soon found that by the age of 15 the great majority of children living in urban centers had already been infected with tuberculosis. The earlier discoveries of Cornet and Pflugge brought about the development of the hospital movement for the isolation of advanced cases. Von Behring and Calmette's work naturally led to the pasteurization of milk as milk was known to be frequently contaminated with tubercle bacilli. Von Pirquet's work ultimately led to the development of preventoria and the examination of children living in close contact with tuberculous patients and finally to a broad program for the better care of children including special nutrition work and health education.

Over 100 years ago Coddington in England had demonstrated the value of fresh air for the treatment of phthisis and in the latter half of the 19th century Brehmer and his successor Detweiler maintained a sanatorium for the

treatment of tuberculosis patients and demonstrated the curative value of careful medical supervision with rest, graduated exercises, proper diet and fresh air. In this country Trudeau was the pioneer in the curative side of anti-tuberculosis work.

The National Tuberculosis Association since its inception has urged all of the activities enumerated above which are based upon definite scientific knowledge. The Association and its affiliated branches now reaching every state in the Union and nearly 1500 different localities, increasingly financed by the seal sale, have been able to bring about the creation of the large majority of sanatoria and hospitals which exist in this country for the treatment of tuberculosis. As the work developed it became necessary to specify definitely what purposes the funds raised by the seal sale under the agency of the National Association could be used for. These are now specified in the contract agreed upon by the National Association and its affiliated state associations. This contract provides the following types of work:

#### AUTHORIZED FORMS OF TUBERCULOSIS WORK

"The following are the authorized forms of tuberculosis work for which funds secured through the sale of Christmas seals or substitutes under this contract may be expended. In all communities having a population of approximately 30,000 or more the development of a suitable program may be most effectively accomplished by the employment of a paid, full-time, trained executive.

#### "(A) Organization and Legislation

"The Agent agrees:

"(1) To carry on activities that will stimulate the establishment and development of state and local health departments and in such departments a division of tuberculosis or other bureaus for the promotion of various forms of tuberculosis work.

"(2) To stimulate the enactment of legislation for the promotion of public health and the prevention of tuberculosis and to provide for its enforcement.

"(3) To stimulate the organization and development of state and local activities for the prevention of tuberculosis and for the promotion of the public health.

#### "(B) Education

"The Agent agrees to promote an educational program to inform the public as to the nature, prevention and treatment of tuberculosis and to cooperate in the education of trained health workers. The object of such educational work should be:

"(1) To secure the adoption of definite community activities in the anti-tuberculosis campaign, including propaganda for the establishment and operation by public authorities of

tuberculosis surveys, public health nursing, tuberculosis clinics, hospitals, sanatoria, day or night camps, preventoria, open-air schools, or kindred activities.

"(2) To promote activities for safeguarding children and others from tuberculous infection and for increasing their powers of resistance to tuberculosis.

"(3) To promote the examination and adequate care of persons exposed to infection from tuberculosis.

"(4) To pay the expenses of representatives of tuberculosis or public health agencies for attending tuberculosis conferences.

#### "(C) Demonstration

"The Agent agrees to promote the demonstration of various forms of anti-tuberculosis work with a view to turning over such activities to the proper health authorities when their value shall have been shown. Under this provision the Agent or its sub-agents may properly engage in the following activities for demonstration purposes:

"(1) Employment of tuberculosis or public health nurses and, or, other trained workers to undertake education, demonstration or relief work as defined in this section of the contract.

"(2) Organization and temporary operation of clinics, dispensaries, or out-patient stations for the diagnosis and treatment of tuberculosis.

"(3) The establishment and temporary operation of open-air schools or fresh air classes for children who have been exposed to tuberculosis, or who are susceptible to the disease.

"(4) The establishment and temporary operation of preventoria, summer camps, or children's divisions of sanatoria or hospitals for borderline, malnourished or open cases of tuberculosis in children.

"(5) The promotion of the health of children through education and the examination and adequate care of those who are undernourished and who may be especially susceptible to tuberculosis.

"(6) The establishment and temporary operation of any other activity or agency for the prevention of tuberculosis.

#### "(D) Relief

"Funds derived from the sale of Christmas seals should not be expended for relief except for the purpose of demonstrating a need to some other agency or in an emergency under the following conditions:

"(1) Payment in whole or in part under exceptional conditions for the maintenance of patients in hospitals or sanatoria where there is no provision for the maintenance of such patients by duly constituted public authorities and when efforts to secure funds therefore from relatives, employers, churches, lodges or other relief agencies prove unavailing.

"(2) After-care, that is, advice, securing employment for, and, if need be, relief of patients discharged from active treatment.

"(3) Relief, of whatever medical or material form may be needed, for families in which there is a case of tuberculosis which cannot be placed in a hospital, provided that, through definite medical, nursing and social supervision, conditions are maintained to prevent further infection. This paragraph pre-supposes that relief from other sources as indicated in paragraph (1) of this section is unavailable.

"(4) Relief (so far as it is not available from private or public sources as set forth in paragraph (1) of this section) which may be needed for a family in order to permit a patient to accept institutional care.

#### "(E) Other Health Activities

"The Agent may promote other health activities for the prevention of disease that are not included in this contract with the specific approval of the Board of Directors of the National Tuberculosis Association or its Executive Committee."

The National Tuberculosis Association was primarily organized for the study and prevention of tuberculosis and was not organized for the purpose of relieving those already sick of tuberculosis except insofar as the relief was a part of the prevention. There has never been any doubt in the Association but that the establishment of hospitals and sanatoria and the isolation of tuberculous patients therein was a definite factor in the prevention of tuberculosis. Furthermore it has realized that no satisfactory preventive program can be carried on unless there are definite facilities for medical relief. Medical relief is classified as care of sick persons, either medical, nursing or hospital care, and as a special phase of outdoor relief (as opposed to indoor relief or institutional care). The Association believes that institutions should be maintained by the public funds, that outdoor relief should be maintained by private philanthropy except in such cities as are willing and able to undertake the burden of relief and that the income from the seal sale should be used for activities which will aid in the prevention of the disease.

The success of the seal sale has been phenomenal and its steady increase due to improved methods of propaganda, a thoroughly organized method of salesmanship and an appreciation of work well done by the general public has brought about a situation which now requires serious consideration. During the past 19 years the death rate from tuberculosis has steadily fallen and is now approximately half what it was in 1907 while the seal sale has increased steadily from \$7,000, in 1907 to \$4,766,300, in 1925. This means that far larger sums of money are being expended on prevention

with the problem half as serious as it was twenty years ago. A brief study of the general causes of death and the most important causes of illness show that tuberculosis no longer occupies the first place as captain of the men of death in this country, but that cancer, heart disease and pneumonia now far exceed in the total number of deaths and in death rates that of tuberculosis. Yet it is found that the amounts of money expended on the prevention of cancer, heart disease and pneumonia are pitifully small. Assuming for the moment that any one of us as good citizens of our community is asked how much we should spend on the relief of disease and the prevention of disease, we would take into consideration hospital needs, sanatorium needs, health department needs and such other needs as can be met by voluntary associations. The one most important duty of a voluntary association is a continued propaganda to inform the adult population upon the dangers of the disease which the Association combats, for the reason that this is not done by health departments and there is cause for belief that it can never be done adequately by health departments. Executive authority and political leadership constantly fear the presence of any health commission or health department which is able to make use of vast sums for propaganda purposes for by the nature of things the health commissioner's name must be attached to all such propaganda and as his name becomes broadcast far and wide throughout his community or state, his name becomes more and more known to the people and there is a tendency for him to become somewhat important in his own mind and ambitious for other and higher offices. This would be true in any other branch of Government as well as in the Health Department and it, therefore, seems quite unlikely that a health department would ever be sufficiently supplied with funds by an appropriating body for a continued and adequate policy of health education. It would, therefore, seem likely that voluntary associations must continue this task for an indefinite period.

Nearly ten years ago the National Tuberculosis Association felt it wise to inaugurate a program of health education in children known as the Modern Health Crusade. This program was based on the following scientific facts: that human beings become infected with tubercle bacilli during their early childhood; that children kept in proper physical condition are less liable to become diseased and this is generally spoken of as increased resistance; and that these conditions which lower vitality are generally said to impair resistance and predispose the development of tuberculosis as a disease. Consequently in any plan of health education to prevent tuberculosis, it is necessary to enter into the entire field of health so as to train the child to acquire healthy habits which would keep him in

the best condition possible and this would be a material factor in reducing the number of individuals who would develop tuberculosis in adult life. The National Association is entirely satisfied with the results obtained although it is admitted that these results are difficult to measure.

The National Tuberculosis Association has also urged the pasteurization of milk because efficient pasteurization will kill tubercle bacilli and diminish the possibility of infecting children with tubercle bacilli. In other words, another source of infection may be removed by this process. It was known, however, that the pasteurization of milk would in all probability diminish the number of cases of intestinal disorders in infants and children and that pasteurization was a preventive of diseases other than tuberculosis alone. It can be stated, therefore, that by these two activities alone the National Tuberculosis Association broadened its campaign by attacking certain diseases other than tuberculosis.

In 1920 the National Health Council was organized and was constituted by representation of the following organizations as regular members: American Public Health Association; American Red Cross; American Social Hygiene Association; Conference of State and Provincial Health Authorities of North America; Council on Health and Public Instruction of the American Medical Association; National Child Health Council; National Committee for Mental Hygiene; National Organization for Public Health Nursing and the National Tuberculosis Association. Although this membership has changed a little, yet the National Health Council still remains as an agency for coöperation and program and budget study for the various associations affiliated with it. In 1923 the National Health Council discussed seriously the possibility of organizing state health councils in those states in which there existed a number of voluntary associations organized for varied and specific health purposes. No earnest action was ever taken and there was no definite result from these deliberations. One of the opinions advanced at that time was that few states were sufficiently endowed with this world's goods to support a child health organization, a cancer association, a social hygiene association, a nursing organization, a mental hygiene association, an association for preventing communicable diseases and so on and that it would be wiser probably to develop other types of activities in the one association which was well supported financially. The development of this idea is shown by the fact that the Ohio Public Health Association acts as Secretary for the Ohio Society for Crippled Children, the Ohio Hospital Association and the Ohio Social Hygiene Council.

In 1924 a state association affiliated with the National Tuberculosis Association applied to

the Board of Directors of the National Tuberculosis Association for permission to use a small part of its seal sale funds to inaugurate a campaign for the prevention of heart disease. This suggestion provoked considerable discussion in the Board and it was finally approved in the adoption of the following resolution:

*"Resolved, that the application of the Association for permission to carry on a campaign against heart disease as one of its activities with seal sale funds, be approved under the following conditions:*

*"(1) That the work for the prevention of tuberculosis be continued on an adequate basis.*

*"(2) That the program for heart disease prevention be submitted to the American Heart Association for suggestions and approval.*

*"(3) That in the publicity attendant upon the seal sale due announcement be made of the additional use to which the money is to be put."*

Since that time several state associations have enlarged their programs and undertaken activities that could not be defined as definite anti-tuberculosis activities but supported by voluntary donations and not by the proceeds of the seal sale. It was agreed in the Board, however, that before permission should be granted to any affiliated association to expend any part of the proceeds of the seal sale for activities other than anti-tuberculosis work, certain definite fundamentals of anti-tuberculosis work should have been undertaken and certain types of activity maintained before the state or local association should undertake any expansion of its health activities. The following requirements have been suggested and are now used as a working basis by the Association, having been definitely approved by the Executive Committee at its meeting on April 16, 1926:

**"I. REQUIREMENTS TO BE FULFILLED BY AN AFFILIATED STATE ASSOCIATION**

*"(1) It must have a representative director.*

*"(2) It must have a full-time executive secretary.*

*"(3) It must have rendered financial statements to the National Association showing not only income and expenses but also assets and liabilities and it must be in a satisfactory financial situation.*

*"(4) It must have demonstrated its ability to work harmoniously with the State Board or Department of Health and other official and voluntary agencies.*

**"II. REQUIREMENTS OF A STATE-WIDE PROGRAM**

**"1. Educational Activities**

*"There should exist within the state a continuous educational program on tuberculosis, carried on by the official agencies, or the affiliated voluntary associations within the state, or both.*

**"2. Legislation**

*"(a) There should exist a law or health regulation requiring the notification of cases of tuberculosis.*

*"(b) There should be a law or health regulation prohibiting spitting in public places.*

*"(c) There should be suitable laboratory facilities for the examination of sputum.*

*"(d) There should exist a state board of health or department of health to supervise the follow-up of positive cases, and the prosecution of violations of law or regulations against spitting, and to promote the efficient execution of laws and regulations for the control of tuberculosis; and in more populous states there should be a division or bureau, or specially designated employee therefor.*

*"(e) There should be a law authorizing the state or political sub-divisions thereof to create institutions and other agencies for the discovery and treatment of tuberculosis cases.*

*"(f) There should be a satisfactory law or administrative machinery for public health nursing.*

**"3. Case-finding Machinery**

*"There must exist machinery for continuous case-finding work in the state, including dispensaries or out-patient departments of hospitals or other clinics for the purpose of diagnosing cases of tuberculosis. There should be at least one diagnostic service located in every city, or other political unit, with a population of 100,000 or more and there should be ambulatory or traveling clinics maintained by the state or political sub-divisions thereof or by voluntary agencies.*

**"4. Public Health Nursing**

*"There should be at least one public health nurse attached to each diagnostic center or ambulatory or traveling clinic. A public health nursing program should have been adopted and under competent direction.*

**"5. Institutions**

*"There must exist an institution or institutions for the treatment of tuberculosis which will admit patients of any financial status or cases in any stage of the disease. There should be a definite plan or program for the development of a sufficient number of beds approaching a ratio of one bed to each annual death, the total number of annual deaths to be estimated on the average number of deaths annually for the previous five years. For the above purpose the institutions maintained by a state, county or other political unit, or by voluntary agencies will be included in determining the total number of beds."*

It would be perfectly proper at this point to ask, "Why is a campaign against heart disease undertaken before any other program?" This may be answered by saying that to a certain

extent practically every tuberculosis association is engaged in some form of child health activity and that the sums expended annually by the various affiliated tuberculosis associations are approximately equal to the amounts expended by the National Child Health Association and that more is spent upon child health education than upon any other single authorized form of work. Although child health was thought of first, yet the prevention of heart disease was next in the minds of those who proposed an expansion of program in the state above referred to and these were the reasons given: that in our case-finding machinery which is largely the dispensary, the tuberculosis patient must always have his heart examined and that there seemed to be no logical reason why a new dispensary should be established for the examination of cardiac patients in whom the lungs must always be examined; that the equipment of the dispensary was identical; that nursing and social welfare service were needed by each; and that hospital care was also needed by the cardiac patient as well as by the tuberculous. It has been said by some that with the constant and continued diminution in the death rate and morbidity rate of tuberculosis, the time might arrive in the next few years when we would find some of our tuberculosis sanatoria and hospitals with many vacant beds and it was pointed out that if that happy time does arrive, certain of these institutions now utilized for the tuberculous could readily be used for patients affected with cardiac disease or for other chronic diseases such as diseases of the nervous system. It is self evident that in a city in which there is a definite annual expense for the prevention of tuberculosis and nothing

is being spent for the prevention of other diseases, an effort to prevent other diseases will naturally increase the expense. It should also be equally self evident that the creation and maintenance of two, three or four separate societies will be more expensive than the maintenance of one public health association. It should also be considered that if the death rate from tuberculosis continues to decrease, the knowledge and experience of the staff should be utilized for the prevention of other diseases and that it would be a relatively simple matter gradually to further the program of a tuberculosis association by diminishing ultimately a little of its tuberculosis work in order to take on some work for the prevention of heart disease. It, therefore, seems wise for us to take account of stock not only as those who are responsible for the promotion of the anti-tuberculosis campaign but also by us as citizens and, as we hope, intelligent individuals to do what seems to be the best thing for our fellow citizens in the light of our constantly increasing knowledge.

The conclusion, therefore, is that the tuberculosis problem although less acute than it was twenty years ago is still unfinished; that where the definite fundamentals of anti-tuberculosis work have not been completed, as they have been in this state (Massachusetts), further efforts should be made to bring about other accomplishments; and that when these fundamentals have been undertaken and the activities specified thereunder are maintained, a certain proportion of funds may be profitably diverted to an attack upon some other disease which has become a more important and serious factor in the life of our citizens.

## THE IMPORTANCE OF MEASURES TO COMBAT THE PRESENT HIGH RATE OF MORTALITY FROM TUBERCULOSIS AMONG THE AGE GROUP BETWEEN FIFTEEN AND FORTY-FOUR\*

BY EDWARD O. OTIS, M.D.

As is well known, the mortality from tuberculosis is comparatively high in the first two years of life. It then declines and is very small until about the 15th year or the adolescent age, when it rapidly rises and reaches its peak at about twenty or twenty-five years and then continues at about this level until forty-five or fifty years of age and then slowly again declines. We may say that the greatest mortality is between fifteen and forty-five years of age. The crux of our anti-tuberculosis endeavors would appear to be efforts to reduce this high mortality occurring at the most valuable economic age of the individual. It is at this period that the wife is bearing and raising her children and

the young man or young woman is entering and establishing themselves in economic life.

The causes of this high mortality at the age period mentioned—between fifteen and forty-five years—are in general the stress and strain of an active strenuous life, rapid child bearing, overwork, unhygienic condition of living and working, insufficient rest, lack of proper and nutritious food and vicious conditions in social and economic life.

One of the most potent causes of this high mortality at this period, in my opinion and experience, is chronic fatigue, but of this I shall speak later. In our present anti-tuberculosis work the emphasis seems to be placed on child welfare—the propaganda is a popular one.

\*Read at the annual meeting of the Massachusetts Tuberculosis League, Inc., April 26, 1926.

particularly in this state (Massachusetts). We have the official state-wide clinics for the examination of underweight and undernourished children and those who have been exposed to tuberculosis—"contacts"; preventoria springing up like mushrooms; open-air school rooms; nutrition clinics and all the other measures for the protection of child life. All this is of the utmost importance but are we not neglecting that other older group into which our well protected children graduate? Again in adult life we are seeking out and placing under proper treatment those already suffering from active tuberculosis through our surveys, visiting nurses, tuberculosis clinics and sanatoria, but what are we doing to *prevent* the frequent incidence of the disease? It is true that much is being done in instituting and conducting industrial programs in factories and other establishments where large number of wage earners are employed. Information on health and personal hygiene is disseminated in various ways. In some industries employees are examined before they enter the employ of the establishment. In some of the larger industries physicians are employed to care for illnesses or accidents occurring among the employees and to examine cases of suspected tuberculosis. All these measures are excellent but they are directed chiefly toward workers en masse, as in factories, and, in the second place, they are directed either to the supposedly well or to the definitely ill.

The thousands working in small industries or as clerks, bookkeepers, stenographers in offices, etc., receive scant if any attention as to their health. There is a class of young wage earners, however, particularly of this latter category—those in small industries—who are neither ill, as one generally regards illness, nor are they well, but they are suffering from what I call chronic fatigue which, if it goes on, eventually, as I have seen, results in active tuberculosis.

For example: Here is a young woman employed as a stenographer or bookkeeper or saleslady. She works eight hours a day. She may live at a distance from her place of employment and has the additional fatigue of the journey to and fro. After a longer or shorter time she begins to feel tired. She goes to bed tired—she gets up tired. She is tired all day and her work becomes a burden. Finally the break comes and the latent tuberculosis infection takes this favorable opportunity to become active disease. Many of the so-called cases of nervous exhaustion are in reality tuberculosis. What happened in this case was that the young woman constantly exceeded her fatigue limit and thereby lost her normal resistance.

I recall the case of a young man, ambitious to succeed in his chosen pursuit, who worked seven days in the week, constantly exceeding his fatigue limit and then finally succumbed to active tuberculosis. Such cases are frequent in the experience of us all. Far too many young

persons are becoming disabled from chronic fatigue and laying the foundation for tuberculosis.

Of course, chronic fatigue is but one of the causes which produces this heavy mortality from tuberculosis at the age period we are discussing—there are many others resulting from the economic strain and ill adjustments of life, poverty, ignorance, dissipation and neglect of the laws of health. All this we know and we know the disastrous results resulting therefrom, but are we doing all we can to obviate them and so lessen the danger from tuberculosis?

If it is worth while to devote all this care and expense on the child in making him a healthy adult, is it not equally worth while to do all we can to preserve the finished product, for the health training of the child is that he may be able to enter adult life in good health and remain so and to successfully do his part in the world's work. Health education must be constant and incessant by all the means we know so well. The periodic physical examination so strenuously advocated at the present time is another health protective measure, although I doubt if this propaganda of health examinations will be very much heeded by the great mass of the people—"Why should I pay for being told that I am well?" says the man in the street, and I doubt if the doctors themselves are very enthusiastic about it.

When the adult enters active life from our high schools and business colleges, from which so many of the clerks, bookkeepers and stenographers are recruited, an examination as to his physical fitness would be of much value, and thereafter periodic examinations should be made to determine the effects of his occupation, with especial reference as to the question of fatigue. Take the large number of young adults who are graduated each year from our business colleges alone, all of whom enter into gainful occupations. Could not some arrangement be made through our tuberculosis associations whereby a competent examiner could be furnished for such examinations? What better anti-tuberculosis work than this could be done?

Again much could be accomplished in preventing breakdowns and the risk of tuberculosis by educating the worker as to the use of his leisure hours and so as to maintain his vigor and health. Besides the daily eight hours of work there remains sixteen hours for sleep and individual use. If the minimum of eight hours is devoted to sleep, there are still eight hours remaining, the use of which may further lower one's vitality and lead to chronic fatigue and disease, or they may be so employed as to be a source of bodily refreshment and increased resistance. In our efforts to increase the standard of health and prevent tuberculosis we have a most valuable opportunity in these eight hours of leisure to educate and guide the workers so that they may be a source of daily renewed

strength and not a source of added fatigue, leading to breakdowns with chronic fatigue and to manifest disease.

Another opportunity is with the large number of young adults who attend night schools in our cities. Is it not within our province as tuberculosis associations to provide health education in the form of talks and lectures on the prevention of disease and tuberculosis and offer an examiner for physical examination. Here, it seems to me, is a field which we well might assiduously cultivate. When the worker has succumbed to chronic fatigue and is no longer able to pursue his occupation or only can do so under duress, why should we not provide preventoria for them? I recall a visit to an institution of this very kind at St. Agathe in the Laurentian Mountains founded by the late Dr. Richer. Here were young women employed in industrial pursuits who, although suffering from no definite disease, had lost their normal vigor and were in a state of chronic fatigue and in the zone of lowered resistance. Here they were given the opportunity through rest, fresh air and good food to regain their resistance. If preventoria, now so rapidly increasing, are so invaluable for children who are underweight, undernourished or "suspects", are they (preventoria) not equally valuable for the adult young man or young woman who is run down and suffering from chronic fatigue? By this means I believe many a case of active tuberculosis would be averted.

Again, the advocacy of longer vacations than the conventional one or two weeks, especially

for young women workers, would be a very desirable step. If rightly used for rest in a country environment, this longer vacation would go far towards remedying the condition of chronic fatigue and preventing manifest tuberculosis. Moreover, I believe that an equal amount of work could be done, and better done in the remaining months, if this longer vacation was allowed.

In conclusion: I would emphasize Dr. Emerson's contention that there seems to be a hiatus in our Crusade for preventive medicine and especially in the prevention of tuberculosis. All our care for the protection of the health of the child is to prepare him for future usefulness as an adult in the world's work. Should we not be as careful of the finished product—the child grown up—as we have labored to produce it?

The general diminution of the mortality from tuberculosis within the last twenty years is a remarkable achievement in preventive medicine, due largely, I believe, to the sustained activities of our anti-tuberculosis nation-wide efforts. But it must be remembered that this diminution is unequally distributed over the life of the individual, as we have seen. It is less striking between the ages of 15 and 45, an age period when the individual is of the most economic value to the community. Here is where, I believe, our most strenuous efforts should be made to lower this highest point in the curve of the general tuberculosis mortality. I have attempted to indicate some of the measures we might employ to accomplish this. Experience and investigation will suggest others.

### POSSIBLE FIELDS FOR EXPANSION OF THE ACTIVITIES OF TUBERCULOSIS ASSOCIATIONS\*

BY GEORGE H. BIGELOW, M.D.

PERHAPS the most remarkable phenomenon in the whole field of public health today is the fall in the tuberculosis death rate. Fifty years ago there were 416 deaths per hundred thousand population in Massachusetts; today it has fallen to 83. If the rate of 1875 had held in 1925, there would have been 13,000 more deaths from this disease last year. Many explanations have been offered and there is probably some truth in most of them, but it is undoubtedly true that in order to continue this fall at the same rate greater energy than ever must be expended.

In Massachusetts today there are about 3500 beds available for tuberculosis patients, while the number of deaths is around 3500 annually. Thus there are about enough beds to meet the needs provided there is intelligent distribution. Adequate handling of the tuberculosis problem means more than hospital beds. This is being

shown by the results of our underweight clinics in the schools throughout the State. Last year some 10,000 children were examined, and about 30 per cent were found to be reactors. Of these a certain number need institutional care and this is being provided at two of the State institutions. Another group need preventoria and summer and day camp care, with special attention in the school and home. In addition, there is a large nutrition problem among the non-reactors. For this, care in schools, homes and camps, all community resources must be utilized and both official and non-official agencies must contribute. We have gone far enough this year in our re-examinations to find out what admirable results can be obtained with relatively little effort and what tragic results are obtained where no effort whatever is made.

Thus, although the number of persons annually dying of tuberculosis has dramatically decreased, still our conception of prevention in this disease has been directed toward earlier and

\*Read at the annual meeting of the Massachusetts Tuberculosis League, April 26, 1925.

earlier stages of the disease until now we are attending to the malnourished and the normal though exposed individuals who are preclinical or potentially tuberculous. All this spreads the field of endeavor enormously in order that it may be wide enough to include those who without special care will later become cases. In not a few places local resources are not sufficiently developed to meet the demands of this new point of view, and here no time must be lost in expanding these resources and this point of view, and no extraneous program must be allowed to distract attention. Yet in other places adequate resources apparently exist and we hear of tuberculosis organizations reviewing the field of prevention to see just where they can soundly fit in new fields.

It has been said that in the development of public health the present is the age of the child. When we consider how many years the child has been neglected as a recipient of preventive medical attention it may be asked whether this exuberant attention at last given the child is not evidence of the second childhood of public health. But if so, the records of the first childhood are well lost in obscurity. This preventive work among children takes many forms: the detection and correction of defects, nutrition, posture, prenatal and infant supervision, active immunizations, mental and dental hygiene, etc. This is all aided by a host of clinics, extra diets, exercise, supervised play, rest, and what not. It is to our credit that the child has an especial appeal and thus this work is being more and more extensively undertaken.

But what of early clinical and preclinical work among adults? When the perfection of preventive work on children has been reached it might theoretically be supposed that the child will enter adult life so defectless and well trained that he can go on indefinitely without further supervision. But this is only a theory and each decade has its particular problems of prevention. Then, too, at the present we have on our hands a host of adults who have passed through childhood with a haphazardness of supervision which must warm the hearts of those who indit preventive medicine as controverting the laws of natural selection. During the last twenty years the death rate from communicable disease has dropped 40 per cent, while that from degenerative disease has risen almost as much. We have the highest cancer rate in the Union. The diabetic death rate fairly parallels that of cancer. Heart disease claims annually twice the deaths from cancer. The joints, kidneys, nervous systems, all the parts of the human machine are wearing out appallingly.

How can all this be prevented or at least slowed up? Some say less prosperity, others less urbanization, while more wars, less wars, simplified transportation, a general slowing up of the rate of living, and other sweeping and vague

prescriptions have been offered. There is, however, a small nucleus of established facts such as the relation of disease foci of infection to certain cases of heart, kidney and joint disease; the relation of obesity to diabetes and to a general increase in mortality; and the inestimable value of early recognition of cancer. Then somewhat more vaguely, recognition in the preclinical stage of disease (which is not far from health) is being given to hygienic abominations which may exhaust the enormous margin of safety possessed by all the organs and produce symptoms. To this end examinations must be made while the individual still feels healthy hence the term health examination. This emphasis is new and like all new things it has been abused. The technique and the significance of many of the findings have yet to be worked out. But with all its imperfections it remains the most promising approach to disease prevention since bacteriology and physiological chemistry gave us rational approaches to the communicable and deficiency diseases.

But how can the health examination idea be developed and utilized? Education! and this although we are said to be suffering from a too great diffusion of education. It is not the diffusion but the quality of the education that is at fault. So in regard to the health examination, there must be general knowledge of the aims and limitations of the method. The public must undergo a mental metamorphosis ere it will be willing to pay for not being sick. Also pills, operations, vaccines or vitamins are much more concrete returns for expenditures than mere advice. There are many decimal points difference in what the average man is willing to pay for a picturesquely described endocrine product compared with the unimaginative advice of exercise out of doors. Many of us just don't want to take more exercise. Hence the money in reducing pastes and such.

But we must remember that the preclinical point of view is as revolutionary for the profession as for the public. The practitioner today was conceived in pathology and delivered in therapeutics. Hygienic advice is in the limbo of the prenatal. He has neither the time nor the courage to adopt this amorphous thing which like the jelly fish looks all very well but when you grab it there is little or nothing there and it may sting. But given a public which will not demand the impossible and which is more and more willing to work for its own longevity, more and more physicians will embark like Columbus on the imperfectly charted but endlessly promising sea of the health examination.

Here, then, is a field in which a local tuberculosis association might expand once the tuberculosis demands are covered. The field would consist in helping to educate the public to seek and follow medical advice while they still feel well and in giving doctors an opportunity to

familiarize themselves with the new point of view. The local medical society and the tuberculosis association should unite. Let the medical society appoint a committee that would be responsible for staffing a health examination clinic and for all the professional aspects of the work, and they are multiple. Let the association be responsible for the publicity, and for furnishing quarters, equipment, nursing service, medical social service, follow-up, and clerical work. All applicants irrespective of their economic status should be admitted. The one reason for exclusion should be that the individual is sick and therefore not a fit subject for a health clinic. A fee should be collected from those able to pay. This fee should be used to remunerate the doctors nominally for their time and to carry a part, if not all, of the ex-

penses of the enterprise. The ultimate objective, as in most non-official health agency activities, is for the group to work itself out of a job. As the education of the public and the profession becomes more complete, the service would more and more be sought and obtained in the private office. The success of such a local venture in preventive medicine would depend first on the quality of medical supervision, and second on the quality of the educational campaign.

Under varying auspices throughout the country health examinations are being offered. Certainly in Massachusetts there has been considerable hesitation about generalizing this service. Under such auspices as these outlined, a real contribution might be made.

## TUBERCULOSIS AND INDUSTRY\*

BY MCIVER WOODY, M.D.

IN speaking before this Association on the topic of Tuberculosis and Industry, I would like to present for your consideration the question whether it is not time to carry the campaign against tuberculosis into the factories and the offices in this Commonwealth. If this is to be done it would seem that the campaign should not be in the nature of a direct attack, but that it should take the form of a flank movement; in other words, that instead of invading places of business and giving talks about tuberculosis, its symptoms and its prognosis, that we might content ourselves with advocating the periodic health examination for employees and help establish it as the best practical means of discovering tuberculosis in its incipient stages while there is still hope of a prompt recovery and before there is danger of the disease being transmitted to fellow workers. This in brief sums up my convictions on the subject and now with your permission I will first call attention to the importance of the problem, then outline how it has been solved in some places. After that I will consider a few objections that may be raised against the plan and then answer them if I can.

There is a growing tendency for meetings such as this to include in their programs some reference to industry. One reason for this is that as the campaign against tuberculosis becomes more and more successful, the tactics that are used must be altered to meet changed conditions. Twenty years ago when voluntary associations were first organized to combat tuberculosis, the fight was mainly defensive in nature. The disease was much more prevalent than it is today, its symptoms were not as clearly recog-

nized as they now are nor was its treatment as well understood, and what was perhaps even more important there were few institutions to which those who contracted the disease could go for treatment. Much ground has been gained since then and there are fewer cases. The symptoms of the disease are familiar to all. It is a matter of common knowledge that early recognition of the disease and adequate treatment can arrest its progress and what is fully as important, there is in this State a chain of excellent institutions for the treatment of tuberculosis. And so as the years have gone by your campaign against the disease has become more and more aggressive with tuberculosis instruction in the schools and the establishment of preventoria for the treatment of children who have been exposed and may develop the disease. Is it not logical to suppose that the next step will be to reach the adult population or rather the larger portion of it who are in factories and offices? As a matter of fact this has been tried out in different places with various degrees of success. Talks on tuberculosis have been given in factories. Diagnostic clinics for tuberculosis have been held, employees being urged to take advantage of the opportunity to learn whether their lungs are sound and being assured that should any diseased condition be found it would be reported to them at their homes and that their employer would not see the findings until they had been so combined as to conceal effectively the identity of all individuals. All these newer phases of the tuberculosis problem are aimed to discover the incipient case. The question is now whether the time is ripe for industrial organizations to establish periodical health examinations for the entire force whether the individuals fear tuberculosis or not.

Something of this sort is already being done

\*Read before the Massachusetts Tuberculosis Association, April 26, 1926.

in certain large industrial plants. As you all know the law requires such plants to establish and maintain a first aid room. In the natural course of events many cases of minor illness gravitate to this room; cases that interfere with the employees' work but do not keep them at home. When this stage of development is reached a physician is secured to supervise these expanding activities and before long he finds himself engaged, not so much in outlining the treatment to be given accidents as in studying the effects of minor illnesses on the personal efficiency of the individual employees. As time goes on these employees get to know the physician and begin to come to him for advice in matters of health. If this side of his work continues to expand the physician will wish to systematize it. He may begin to call to his office for examination at regular intervals certain employees who have been through a severe sickness or about whose health he is apprehensive for some other reason. He finds that these employees do not object to such examinations. In fact he finds that they thoroughly approve of them. From this point it is but a step to an arrangement whereby every employee is examined at least once a year. Each man is called in on company time and given an examination that consumes about ten minutes. This allows him to ask any questions that are on his mind and affords the physician an opportunity to give him any advice that will improve or safeguard his health.

If at such an examination an individual is found to have a few moist rales at the end of expiration or a change in resonance or in voice sounds, or if there has been loss of weight since the last examination, or if there is a history of a cough, or if pain in the chest; in short if there are any indications of tuberculosis the physician may suggest an X-ray of the chest. This would probably arouse objection on the part of the patient but if the proposition is presented skillfully the objection will soon be forgotten, particularly if there is an X-ray outfit right in the plant. So the X-ray is taken. It may be negative and the whole matter can be allowed to rest until the time for the next examination comes round; it may be positive and if so no hard and fast method of procedure can be laid down as each case is a problem in itself. Sometimes it is best to refer employees who have incipient tuberculosis to their family physician. Sometimes they prefer to secure the opinion of a chest specialist and in other cases a trip to a diagnostic clinic conducted by the State is necessary to convince them that a condition exists that must be treated adequately. Perhaps the safest guide to follow in such cases is to consider what gives the best chance for the patient's ultimate recovery. Methods of handling these cases will vary in different plants but the central fact remains that such cases will be

discovered early in the course of the disease if the plant has established periodic health examinations.

So much for how periodic examinations can work out in a hypothetical plant. The question is whether it will work out in practice and what the attitude of the employees will be if such a plan is proposed. Will they be apathetic or will they be suspicious? The answer to this will be yes or no, depending on the background in that particular plant. A physician who is overbearing or who becomes resentful when his suggestions are not promptly followed out will soon wreck the whole undertaking. A labor policy which breeds mistrust and suspicion will doom the scheme to failure at the very outset, but given a physician who is genuinely interested in the work and given a management that has the respect of the men there will be no opposition from the men once the proposition is thoroughly understood. Before presenting it the management must believe in it for themselves. If the periodic health examination is worth while they will go in for it themselves from the president down and the examinations will be successfully launched.

And this brings us to the second objection. Will hard headed business men be interested in any proposition that does not justify itself in dollars and cents. Periodic health examinations take time and a great deal of it. The time each employee loses from work is considerable and must be thought of as well as the time of the doctor who conducts the examinations. Some great saving in operating costs must be demonstrated to justify such an expensive innovation. This objection can best be met by calling attention to the well established fact that sickness causes more absenteeism than accidents and that if these examinations can reduce the amount of time lost from work on account of sickness, they will more than justify themselves because in modern factories if a man is absent from work from any cause it means a real financial loss to the concern. Modern production methods are so complex and so delicately adjusted that trouble at any given point has far reaching results. A department employing a hundred men is like nothing so much as a huge football team whose plays have become so perfected by constant repetition day after day that the absence of one insignificant player will spoil the performance of the whole team. And the more important the player the more widely his absence is felt. The operator of some large intricate machine is in a key position and it may seem wasteful to stop the machine for twenty minutes while he is getting his yearly health examination. But it is in just such cases that the health examination accomplishes its greatest saving for it is an insurance against the operator of the machine being out of work for days and weeks.

It must be admitted that there is a promise of real financial merit in the periodic health examination. Now it does not take long for the men at the head of our large industrial enterprises to grasp things of that sort; by and large they are very astute men, more astute perhaps than some of us not in touch with industry realize. In this connection I should like to quote from the confidential report of two well-known British engineers who were sent over here to visit our leading engineering plants, banks, technological institutions and to interview some of our leading business men. Their conclusion was that America's prosperity is due not so much to her material resources which are admittedly great, as to the adoption and strict adherence to a few cardinal principles in the management of industrial enterprises. Among these principles were

The productive capacity per capita of labor can be increased without limit according to the progress in time and labor saving appliances.

It is important that every possible attention be paid to the welfare of employees.

Research and experimental work are of prime importance to progress.

Elimination of waste is an essential factor in the attainment of national prosperity.

These British engineers conclude by saying that the leaders of business in America are, as a class, without an equal in the world. And if you will stop and think you will recall various instances where individual heads of large enterprises have espoused radical innovations. Not all of these innovations succeeded. Some are terribly expensive failures but even the failures indicate that American executives are open minded, eager to discover new ways of eliminating waste and that they are at times willing to go to great lengths simply to benefit humanity.

In closing let me say that it is to be hoped that periodic health examinations will be introduced, slowly and cautiously, one large plant at a time feeling its way along and developing a program suited to its own circumstances. Premature adoption of the plan on a wholesale scale would be ill advised because each industrial organization is a problem in itself and a few failures on a large scale would give the movement a set-back that it would take years to overcome.

## A PLAN FOR THE CONTROL OF CONTAGIOUS DISEASES

BY WALTER A. LANE, M.D.

THE prevalence of contagious diseases seems to be due chiefly to three factors: first, the contagiousness of the disease in the unprotected; second, the present lack of exact knowledge regarding the specific virus in such diseases as measles, chicken pox and mumps, and the difficulty and expense of establishing an early and accurate bacteriological diagnosis in whooping cough and occasionally in diphtheria; third, the lack of uniformity among the physicians who attend these patients in establishing quarantine; and consequently the lack of accurate knowledge that the parents have regarding the periods of incubation, contagiousness and necessary isolation in the various common contagious diseases.

Doubtless in a majority of cities and towns there are health regulations regarding contagious diseases, rules which are more or less rigidly observed; but with the advent of the automobile it is obvious that a doctor living in one community will at least occasionally practice in other communities, and in each of these the Board of Health regulations will vary to a greater or lesser degree. Also, even though the health authorities and the doctor may each be conscientious, irrespective of the changes that are taking place in medical knowledge and practice, the rules of the one or the practice of the other may not have varied for a number of years.

It is difficult also to be sure that the rules of the Health Board are in the hands of each doctor reporting cases of contagious disease and it is possible that some cases are not reported through carelessness or because the parents consider the disease too mild to call a physician. Furthermore, the rules may be read by the doctor at the time he receives his copy and later forgotten when the case in point comes to hand, or the pamphlet may not be read but laid aside for reference and then be forgotten or lost when the need arises. After a number of years, it is probable that most doctors get into certain habits of practice or develop major interests in one or more special aspects of practice, so that not being in constant contact with contagious diseases, they more or less forget definite rules with the result that uniformity is practically never practiced. Health authorities seem to have difficulty in doing more than occasionally revising their rules of procedure, which are seldom read and digested, and in having contagious diseases reported. School authorities are accustomed to accepting certificates written on the doctor's prescription blank or other stray scrap of paper to the effect that "... is now able to return to school" with occasionally the assurance that "... is no longer contagious", while rarely will the assurance be given that "the Board of Health rules have been observed".

That there is in all good faith a lack of uniformity in practice is due largely to a lack of accurate observation and knowledge obtained from those centers where none but the acute contagious diseases are treated, and this reacts to the injury of the doctor as he is criticised by the community for either being careless or overconscientious, while the people are puzzled and sometimes perturbed by the disagreement among the doctors and may turn to other sources than the medical fraternity for help. It seems to be especially desirable to educate the laity in regard to the incubation periods and the duration of contagiousness in the usual epidemic diseases to which children especially are susceptible in order that the morbidity may be lowered and consequently the not inconsiderable mortality among those infected.

MILTON, MASS.

#### CERTIFICATE OF HEALTH MEASLES

Attached card must be signed

"[a] All persons who have contracted measles shall be excluded from school and isolated during the contagious period, that is, for a minimum period of fourteen days beginning five days before the appearance of the rash or until the subsidence of the erythema (redness).

"[b] All persons who have been exposed to the contagion of measles may attend school for seven days after the first exposure [which may be any period within five days before the appearance of the rash in the contagious person] and shall then be excluded for seven days. In case of other exposure the person shall be excluded for two weeks after the last exposure.

"[c] A person who has previously had measles shall not be excluded from school by reason of exposure to such disease thereafter."

\* \* \* \* \*

This certifies that \_\_\_\_\_, age \_\_\_\_\_, of \_\_\_\_\_ Street, has recovered from Measles and that the above regulations of the Milton Board of Health have been followed.

Date \_\_\_\_\_ M. D.

We decided here to try a coöperative method in that we sought to interest the physicians, the Board of Health and the Superintendent of schools in this problem, so that all of these were asked to meet and were instructed by Dr. Edwin H. Place as to the rules of procedure that obtain at the South Department of the Boston City Hospital. Each disease was discussed separately and we agreed on the regulations

that as adopted were approved by the local Board of Health. The method of uniformity in control is one that every doctor follows in each specific instance and that instructs the parents of the child as to the contagiousness and quarantine necessary in the given case. There is absolute uniformity in the certificates returned and the Board of Health and the schools are each notified at the same time of the recovery of the patient. Meanwhile the patient, his family and the community are satisfied that all cases of measles, for instance and those who are susceptible and have been exposed to the disease, are quarantined in one household for the same duration of time as in another and they know why.

When a report of a contagious disease is received by the clerk of the Board of Health, he at once mails to the home of the patient, duplicate post cards, so perforated that they are easily separated, on which are printed the regulations pertaining to the given disease.

We have the different diseases on cards of varying colors such as blue for measles, white for diphtheria, red for scarlatina, etc., partly to attract the attention of the parent and partly to obviate the human error in filing and mailing.

The cards are sent stamped and are to be signed in duplicate by the physician for release of the patient from quarantine, so that by the same mail the Board of Health and the Superintendent of Schools are each notified, and their records become automatically complete upon filing the card. In case the individual is not of school age, the doctor disregards the card addressed to the Superintendent or it may be readdressed to the master of the school which the pupil attends if other than one of the public schools.

By this means we hope to lessen the spread of contagion, obtain coöperation and uniformity of the best practice among the doctors, educate the laity and obtain a higher regard for the medical profession because of our care and consistency in the prevention of contagion in the usual epidemic diseases of childhood.

We have tried this plan for the past three years with more satisfactory results than heretofore obtained.

### MEDICAL PROGRESS

#### PROGRESS IN THE STUDY AND TREATMENT OF CARDIOVASCULAR DISEASE IN 1925. (Continued from Vol. 194, No. 17)

BY T. DUCKETT JONES\*, M.D. AND HOWARD B. SPRAGUE, M.D.

##### III. SIGNS AND SYMPTOMS

"GENERAL"—Pratt and Bushnell have published a book, "*Physical Diagnosis of Diseases of the Chest*" (Philadelphia: W. B. Saunders

\*Dalton Scholar, Massachusetts General Hospital, 1925-1926.

Co., 1925) which should be included in the list of standard textbooks on physical diagnosis. The volume contains an excellent account of cardiovascular diagnosis by Joseph H. Pratt.

Cabot and Dodge (*Jour. Amer. Med. Assoc.* 1925, 84:1793) have studied the frequency char-

acteristics of heart and lung sounds, using the electric stethoscope. They find that practically all the sounds of interest in auscultation are made up of frequencies below 1,000 cycles per second. Presystolic murmurs as a class are characterized by a greater predominance of low frequencies than other murmurs. The frequency bands of importance in systolic and diastolic murmurs are broadly the same. They were not able to associate a particular frequency band with murmurs produced by a lesion of a given kind.

"Murmurs"—Thayer (*Amer. Jour. Med. Sci.* 1925, 169:313) gives an excellent discussion of the interpretation of systolic murmurs. He reviews the anatomical, physical, and physiological phenomena of all the valves and the way murmurs are produced. Apical systolic murmurs, he does not consider of much importance. (1) Actual valvular disease, (2) dilatation of the mitral ring, and (3) functional murmurs are all the points to be considered in determining their interpretation.

Stanojevic and Vaneura (*Cas. lek. Cesk.* 1925, 64:1654) found Flint's presystolic murmur and fremitus in 22 of 256 cases of aortic insufficiency. Two of the cases came to necropsy and no changes in the mitral ostium were found. The relative stenosis of the mitral ostium, they believe, is due to a dilatation of the left ventricle, with good function of the fibrous and muscular ring around the mitral valve.

"Coronary Occlusion and Angina Pectoris"—McNee (*Quart. Jour. Med.* 1925, 19:44) lists the main clinical features of coronary thrombosis as follows: (1) agonizing pain, of varying distribution, which lasts much longer than in the usual attack of angina pectoris; (2) dyspnea, which may be extreme; (3) a peculiar color and appearance of the face; (4) immediate signs of acute cardiac failure—cardiac, pulmonary, hepatic, and renal; (5) one sign which is inconstant, but almost pathognomonic in association with a suggestive history, is a localized pericardial friction rub; (6) fever and polymorphonuclear leucocytosis; (7) various abnormalities in the electrocardiogram. He finds that some patients may survive in fair health for a number of years. The real difficulties in diagnosis arise when the occlusion is the first evidence of cardiac disease in a previously healthy person.

Herriek (*Weekly Roster & Med. Digest*, Mar. 14, 1925) discusses the symptoms of coronary thrombosis, which he states vary according to the suddenness, the completeness, the size and location of the artery, the collateral circulation, and the extent of area functionally lost. With dilatation of the heart, pain ceases and dyspnea begins. Hanser (*Med. Klin.* 1925, 21:354) emphasizes the significance of slight fever following attacks of what he terms angina

pectoris, believing this due to infarction of the heart muscle.

Of 34 cases of true angina pectoris, reported by McBride (*South. Med. Jour.* 1924, 18:334). 25 patients described their pain as being substernal, 8 precordial, 7 epigastric, 6 into the left arm, 4 into both arms, 2 in the right arm, 2 in the left hypochondrium, and one in the left wrist. In all the pulse rate was slower than normal, becoming more rapid as relief was obtained by nitrites. Systolic blood pressure rose in each case above the patient's normal, falling from 30 to 40 mm. with the onset of relief, to rise again after a variable period of time to slightly above the normal for the individual. Associate conditions were myocarditis, 23 cases; general arteriosclerosis, 15 cases; oral sepsis, 13 cases; and aortitis, 7 cases.

Hatzigianu and Telia (*Arch. d. Mal. du Coeur* 1925, 18:466) report 5 observations calling attention to a muscular contraction phenomenon which may appear as the first symptom of angina pectoris. It consists in a motor reflex of the forearm, transient contractions of flexor muscles innervated by certain branches of the median and ulnar nerves. In one case it was of clonic form, and in the others, of tonic form lasting from 5 to 10 minutes. The authors believe the contractions in the arm are caused by the same mechanism as the precordial oppression, and that they may have the same import, from a diagnostic standpoint.

"Hypertension"—Rossi (*Semana Méd.* 1925, 2:250) calls attention to the frequency of hemoptysis in hypertension, which has often been attributed to tuberculosis. He has never encountered chronic hypertension in a tuberculous subject.

Brown and Rowntree (*Jour. Amer. Med. Assoc.* 1925, 84:1016) report 5 cases with marked hypertension, all women, in which there was a pronounced pulsation encountered in the lower right cervical region below the sternomastoid, and believe this will aid in recognition and diagnosis of hypertension. This is due to kinking or buckling of the right carotid artery caused by the adjustment of a lengthened carotid artery to the decreased distance from the aorta (which is elevated) to the skull.

"Aortic Syphilis in Children"—Beretervide et al (*Prensa Méd., Argentina* 1925, 11:1148) present teleroentgenograms to sustain their assertions that the lesions of the aorta from congenital syphilis are as frequent in children as in acquired syphilis at any age. It must be borne in mind that in children the aorta is to the left of the midline of the sternum, on a level with the third intercostal space, in the majority of cases, where it can be auscultated. The statements are based on a study of more than 4,000 children. Gesteria (*Brazil-Med.* 1925, 1:27) failed to find an exaggeration of the second aortic sound in syphilis in adults, to which

Meira called attention in 1916. However, it was found almost constantly in children with congenital syphilis. The course of these cases reveals the sign as an early warning sign, and hence its importance. It confirms Beretervide's discovery of an abnormally wide aorta in 99% of 200 children with congenital syphilis.

"D'Espine's Sign in Dilatation of the Aorta"—Maliwa (*Wien. Klin. Wchnschr.* 1925, 38:891) points to the fact that D'Espine's sign is positive in all diseases which lead to an infiltration or to the formation of a tumor in the mediastinum. He finds it also in the presence of dilatation of the aorta, even of moderate degree.

"Displacement of the Left Auricle"—Mentl (*Arch. d. Mal. du Coeur* 1925, 18:76) calls attention to the fact that displacement to the right of the left auricle, owing to dilatation and rotation of the heart may usually be detected clinically, without the aid of roentgenograms. There is an area of dullness in the lower half of the space between the scapula and the spine on the right side. The heart sounds may be heard in the dorsal part of the thorax, the maximum intensity close to the spine, often in the right space between the scapula and vertebrae. The syndrome has been found chiefly with a flat thorax.

"Myocardial Insufficiency"—Edema of the face, particularly of the lids, was found by Resnik and Keefer (*Jour. Amer. Med. Assoc.* 1925, 85:1553) in cases of advanced myocardial insufficiency which is probably due to impaired renal function and usually associated with general edema. It gives a grave prognosis. Three cases are reported.

Kerr and Warren (*Arch. Int. Med.* 1925, 36:593) suggests that pulsations in the peripheral veins, especially in the basilic of the arms, are an early sign in detecting the presence of myocardial or congestive failure together with relative tricuspid insufficiency. They believe that the magnitude interprets the degree of myocardial and tricuspid incompetence, pointing to a bad prognosis in marked decompensation.

"Monocytosis in Malignant Endocarditis"—Joseph (*Deutsche Med. Wchnschr.* 1925, 51:863) found in the blood of 7 of 8 cases of malignant endocarditis, very large phagocytic monocytes with pseudopodia. They are more frequent with high leucocyte counts and after rubbing the finger or ear from which the blood is taken.

#### IV. BLOOD PRESSURE

The study of blood pressure continues to hold sway as a very important field of research in which progressive studies are being made.

"Normal Blood Pressure"—Diehl and Sutherland (*Arch. Int. Med.* 1925, 36:150) have added a good contribution in the study of 5,122 young men, all students, examined over a period

of three years. In 1922, 16.2% had systolic pressures of 140 or more; in 1923 and 1924 only 9% showed this degree of hypertension. In the latter group only 0.5% had systolic pressures of 160 mm. or more and 0.1% of 170 mm. or more. 209 out of 389 who had systolic pressures of 140 mm. or more, were reexamined, and only 15% of these proved to have persistent hypertension. Of the whole group 1.2% had secondary hypertension; 5.4% transient hypertension; 2.8% intermittent hypertension; and 1.6% persistent hypertension. Nervousness and excitement seemed to be the most important cause of transient hypertension in young persons. There was a definite relation between overweight and persistent hypertension.

Thomas (*Schweiz. Med. Wchnschr.* 1925, 55:896) measured the blood pressure in 627 children (7-14 years of age). Results were as follows:

	Systolic	Diastolic
Boys—7-11 years	98	61
Girls—7-11 years	93	58
Boys—11-14 years	107	71
Girls—11-14 years	106	63

In tuberculous children, the pressure was lower, but only in the older group.

Peters (*Munch. Med. Wchnschr.* 1925, 72:503) studied the pressure in 1,500 subjects. In healthy persons above 20 years of age, he found the normal systolic pressure to vary between 90 plus half the age, and 130 plus half the age. Under the age of 20, it varies between 60 plus twice the age, and 100 plus twice the age. The diastolic pressure ranges from the figure representing half the systolic pressure to a figure 30 mm. of mercury higher than this.

"Hypertension—Etiology"—MacWilliam (*Physiological Rev.* 1925, 5:303), Kylin (*Klin. Wchnschr.* 1925, 4:806) and Dawson (*Brit. Med. Jour.* 1925, 2:1161) give excellent summaries of the present knowledge of blood pressure with particular reference to hypertension etiology. The latter believes it is a physiological mechanism gone mad, in which strain and striving in young persons is a definite factor. He also believes that tendencies to vaso-constriction may be inborn, hence, an inborn peculiarity of function.

Starling (*Brit. Med. Jour.* 1925, 2:1163) believes that the vasomotor center plays the most important part in controlling blood pressure. His experiment is quite convincing: a heart-lung preparation of one dog is used to feed the brain of another dog in which the heart is maintaining the circulation simply through the trunk and limbs. The operator can at his will regulate the supply of blood to the perfused vasomotor center. Very slight increase in this flow causes general vaso-dilatation and a consequent fall in blood pressure. The slightest reduction in the flow, produces immediate vaso-constriction and elevation of blood pressure.

Major (*Jour. Amer. Med. Assoc.* 1925, 84:1691) gives further evidence of the effect of the guanidin bases in production of hypertension. He points to the fact that peripheral constriction may be its method of production of the hypertension. The blood pressure remains elevated from 4 to 5 hours after injection, and yet he finds that in animals the guanidin content in the blood returns to normal 5 minutes after its injection, which strongly suggests its transformation into some other substance that has a prolonged pressor effect. The urine does not show any constant increase after injection, nor does removal of both kidneys prevent the rapid disappearance of guanidin from the circulation. Calcium chloride and a mixture of both calcium and potassium chloride, produce a very prompt fall in the hypertension so produced. The same is true of parathyroid extract, and also of some other tissue extracts, notably that obtained from liver. Elevation in blood pressure produced by guanidin compounds is accompanied by a fall in calcium, whereas the fall in blood pressure produced by parathyroid extract produces a rise in calcium. The marked increase in excretion of guanidin bases in two cases (*Bull. J. Hop. Hosp.* 1925, 36:357) was followed by a fall in blood pressure. Barksdale (*South. Med. Jour.* 1925, 18:707) points to the fact that guanidin definitely constricts the capillaries.

Evidence of the importance of heredity as an etiological factor in hypertension continues to be reported. Weiss (*Med. Klin.* 1925, 21:1049) states that its heredity seems to follow the mendelian law, and is a dominant characteristic. Nikitis (*Arch. d. Mal. du Coeur* 1925, 18:582) reports that in a study of the 7 other members of the family of twin brothers (both having hypertension), he found arterial hypertension in all but two. In 32 patients with hypertension, the familial predisposition to the condition could be traced through 3 generations. Hahn (*Zentralbe. f. inn. Med.* 1925, 46:2) observed vaso-neurosis in children of parents with hypertension, and believes that chronic intermittent hypertension is the adult and senile form of a vaso-neurosis. He found wide variations in determinations in the course of a day, and considers changes of 15 mm. of mercury during the day and a lowering of 25 mm. at night as normal limits.

Cruchet (*Presse Méd.* 1925, 33:1489) reiterates that under the low air pressure at high altitudes, the arterial pressure in aviators increases. Oxygen inhaled immediately reduces the pressure to normal. Grossman (*Ztschr. f. Klin. Med.* 1925, 102:86) and Loewy (*Klin. Wochenschr.* 1925, 4:829) makes similar reports. The latter cites 8 cases, and explains the phenomenon by an irritation of the vasomotor center by a local deficiency of oxygen, which he believes may be a factor even at low altitudes.

Westphal (*Ztschr. f. Klin. Med.* 1925, 101:711) found a hypercholesteremia present in 71% of patients with essential hypertension. He did not find this true in conditions of decompensation. Protein cleavage-products, he states, may cause the same condition. Hypercholesteremia does not result in hypertension in nephroses, pregnancy, and icterus because the arterial wall does not resorb cholesterol, so the author believes. Primary hypotension and secondary hypotension in infectious diseases are frequently associated with a decrease in the blood cholesterol. No satisfactory results were obtained in an attempt to use his theoretical conclusions as a basis for therapeutic measures. Heitz (*Prensa Méd.* 1925, 11:1013) found the highest cholesterol content of the blood in cases of very high blood pressure with high diastolic pressure, and in kidney disease, even with low blood pressure.

Nuzum, Osborne, and Sansum (*Arch. Int. Med.* 1925, 35:492) found suggestive evidence in experiments that excessive protein diets will cause an increase in blood pressure. Disturbed renal function was also found as shown by the presence of albumin and casts in the urine, and by an increase in the non-protein nitrogen and urea nitrogen in the blood.

Mohler (*Jour. Amer. Med. Assoc.* 1925, 84:243) has observed 46 cases with glycosuria and systolic blood pressure of 150 mm. or over. The ages were from 30 to 70, and 36 of them at some time weighed over 200 pounds. Sixteen had diabetes. He believes that endocrine disturbances may be responsible for glycosuria, increased blood pressure, and obesity without arteriosclerosis. No constant blood pressure findings in diabetes were found.

"Effect of Sleep"—Blankenhorn and Campbell (*Amer. Jour. Physiol.* 1925, 74:115) offer the blood pressure averages of 25 patients over a period of 38 nights, showing the occurrence of the minimum systolic point (101 mm.) at the fourth hour of sleep, a slight rise before waking and an abrupt rise after waking to a point equal to the first hour of sleep. The diastolic pressure shows a like, though lesser, fall. The pulse showed a similar fall to that of the pressure. The authors believe the fall in pressure is due mainly to the fall of pulse rate, though it is probably influenced also by the peripheral relaxation. Blankenhorn (*Amer. Heart Jour.* 1925, 1:151) also studied 33 cases of hypertension. One group showed a drop during sleep. A second group maintained the high blood pressure. This method may be helpful in determining those cases which may be helped by rest, and those who have more arteriosclerosis and are incapable of having any particular fall in blood pressure. A few cases of very high pressure showed a marked rise during sleep, at times lasting several hours before an eventful drop. Landis (*Amer. Jour. Phys.*

*iol.* 1925, 73:551) reports blood pressure findings on a subject while going to sleep, during a short nap, and during the period of awakening. The pressure dropped from 110 mm./74 mm. to 94 mm./68 mm. Awakening suddenly gave curves where the pressure rose very rapidly to its previous level. Natural awakening was marked by a more gradual return to the normal waking pressure.

"Blood Pressure Reducing Substances"—The subject of blood pressure reducing substances has received interesting and many believe far reaching reports during the past year. As yet the reports are far from complete, the experimental stage not yet having been passed. Major (*Jour. Amer. Med. Assoc.* 1925, 85:251) reports the use of liver extract containing a small amount of protein, and no recognizable amounts of cholin, histamine or peptone, in 42 patients with hypertension. Encouraging results were obtained, there being a fall in pressure of 20 to 50 mm., even 70, 1 hour after injection. There were no dietary restrictions, and part of the cases were ambulatory and part were hospital patients. Young persons without evidence of renal damage or arteriosclerosis gave the best results. Major and Buikstra (*Bull. Johns Hopkins Hosp.* 1925, 37:392) produced hypertension with guanidin bases in dogs, and found that parathyroid extract promptly lowered the blood pressure. In 10 more dogs, liver extract also rapidly reduced the pressure to normal.

MacDonald (*Canad. Med. Assoc. Jour.* 1925, 15:697 and address before Suffolk County Medical Society, Boston, Jan. 6, 1926.) also has a report of great interest as regards the use of liver extracts in lowering blood pressure. His extract contains small amounts of choline and histamine, although experimental use of these two substances shows, so he thinks, a fall in blood pressure which is neither so marked nor so lasting as the extract itself. There was a definite lowering of blood pressure lasting varying lengths of time up to about 48 hours. He has used it in 33 clinical cases, with definite results. In 8 cases there followed reactions of varying degree closely resembling protein shock. One striking case of pressure above 200 mm. has been held around 120-130 mm. for a year with the extract. No further clinical cases are being tried, until experimental work in the laboratory is more advanced. At the time of the address referred to above, reports were given of the use of Heparphone (Eli Lilly) at the Massachusetts General, Peter Bent Brigham, Boston City, and New England Deaconess Hospitals, in which no very encouraging results were obtained in treating cases of hypertension with this liver extract.

Gruber and Baskett (*Jour. Pharm. and Exper. Therap.* 1925, 25:219) found that moderate doses (0.05 to 0.5 gm.) of Phenobarbital

and Sodium Phenobarbital caused a fall in blood pressure in 162 of 164 cases. Large doses were toxic, and caused paralysis of respiration, the heart continuing to beat for some seconds, or even minutes, after respiration ceased. They were unable to confirm the belief of many earlier writers (*Jour. Lab. and Clin. Med.* 1925, 10:630) that the heart rate is accelerated under phenobarbital and sodium phenobarbital. Usually they found that the heart rate was slowed. Gruber, Shackelford, and Echlund (*Arch. Int. Med.* 1925, 36:366) found that phenobarbital decreased the arterial blood pressure in 85% of cases of hypertension in which it was used. Prolonged administration proved less effective. Renal function at first was increased, but later diminished.

Addison and Clarke (*Canad. Med. Assoc. Jour.* 1925, 15:913) obtained a decided fall in blood pressure in many cases of arterial hypertension treated with calcium and potassium chlorid. To get results it is necessary to continue the treatment of 90 to 180 grains daily for 3 or 4 weeks. Acidosis may be produced.

Simon (*Klin. Wchnschr.* 1925, 4:1910) used inhalations from 3 to 8 minutes of oxygen (about 6 liters of oxygen per minute) in 10 patients with nephrotic or arteriosclerotic hypertension. In 6 cases a permanent lowering of the blood pressure was realized. Normal subjects were not influenced.

Barker (*Med. Jour. and Record* 1925, 121:221) cautions against the use of nitrites in treatment of hypertension, except where angina is present, since it is generally found that patients feel worse after such medication.

Barkdale (*Amer. Jour. Med. Sci.* 1926, 171:111) reports the use of an extract from the seed of the watermelon in 11 normal dogs and 8 clinical cases. There was a lowering of both systolic and diastolic pressure. The report is incomplete as yet.

"Mortality"—May (*Brit. Med. Jour.* 1925, 2:1166) gives a statistical insurance study. He found that persistent pressure of 240 mm. or over, usually means that the patient will be dead in 2 or 3 years, but does not believe it safe to predict it from pressure alone. Frost (*Boston Med. and Surg. Jour.* 1925, 192:241) has published a table of average blood pressures in normal people of different ages from about 250,000 healthy people. Systolic hypertension, he found, without other impairment and presumable "essential" in type, is associated with a definite increase in mortality directly proportionate to the degree of pressure elevation. This mortality is very largely due to the development of circulatory and renal disease.

"Hypotension"—Barach (*Arch. Int. Med.* 1925, 35:151) states that arterial hypotension is found fairly constantly. It was present in about 3.5% of subjects in apparent good health. He believes the individual is of the hyposthenic

or asthenic type, endowed with a poor respiratory apparatus, and states that arterial pressure is dependent on the energy of the heart, resistance in the arteries, and the quantity and character of the blood. Bradbury and Eggleston (*Amer. Heart Jour.* 1925, 1:73) report 3 patients with wide variations of blood pressure in various positions, postural hypotension. Gravity was a great factor in all 3 cases. Rise of blood pressure with the head down and fall with the feet down or in the erect position, occurred immediately. This would be expected if the whole peripheral vascular bed were always wide open, inelastic, and capable of accommodating the major portion of the entire blood volume.

"Blood Pressure and Operation"—Marvin, Pastor, and Carmichael (*Arch. Int. Med.* 1925, 35:782) determined the blood pressure and took frequent electrocardiograms on 30 patients during anesthesia and operation, the patients being completely digitalized prior to operation. They found no convincing evidence that the preoperative administration of digitalis exerts a favorable influence on the blood pressure or the incidence of post-operative complications in a group of unselected patients. Suggestive evidence was found that the drug tends to cause the precise change in blood pressure which it is usually given to prevent. Routine preoperative digitalization in patients with normal hearts does not seem justifiable. Tolstikov (*Deutsche Ztschr. f. Chir.* 1925, 191:221) found a preoperative and post-operative rise in blood pressure, which he believes due to psychologic influences in the former case. The decrease of blood pressure during the operation parallels the general anesthesia.

Trnka (*Cas. lek. Cesk.* 1925, 64:655) advises the preliminary subcutaneous injection of a large dose of caffeine prior to intraspinal anesthesia, to prevent the drop in arterial pressure during operation. Andrejew (*Deutsche Ztschr. f. Chir.* 1925, 193:21) studied the blood pressure during local anesthesia in 50 women and 34 men. He found an emotional drop just prior to operation, and a lowering during operation due to operative trauma, length of the operation, and sensitiveness of the tissues. There was a rapid return to normal after operation. He believes that by watching the blood pressure it is possible to detect collapse and shock early.

"Miscellaneous"—Hering (*Munch. Med. Wochenschr.* 1925, 72:339) estimates the neurogenic part of hypertension by the degree of lowering of the blood pressure after compression of the carotid. He found that even in grave hypertension at least part of it was of this origin.

Shahnke (*Mitt. a. d. Grenzgeb. d. Med. u. Chir.* 1925, 38:592) has studied the blood pressure with the body in different positions. He found constantly that the blood pressure drops

8 or 10 mm. below the normal figure in the erect position.

The result of bilateral vagotomy on blood pressure has been studied by Reed (*Amer. Jour. Physiol.* 1925, 74:61) in 103 experiments. There was no close relation between cardiac and vasomotor responses to the operation. A predominant rise in blood pressure independent of changes in heart rate, which was persistent and progressive, occurred when the operation was performed in the early stages of anesthesia before any pronounced degree of shock occurred.

Shaw (*Brit. Med. Jour.* 1925, 1165) describes in some detail a case having a hyperpiesic crisis. The blood pressure fell from 250 mm. systolic to 124 mm., and the patient remained unconscious 36 hours. Pulse rate was about 100. Upon regaining consciousness the systolic pressure rose to 228 mm. and later 250 mm. Non-protein nitrogen rose to a high level, falling to 20 mg. per 100 cc. promptly after regaining consciousness. He believes the crisis resulted from a sudden relaxation of peripheral vasomotor tone, and suggests the possibility of histamine poisoning.

#### V. X-RAY

There have been no remarkable advances in Roentgenology as regards the heart during the past year.

"Aorta"—Ledbetter, Holmes, and White (*Amer. Heart Jour.* 1925, 1:196) have found the X-ray of distinct value in determining the cause of aortic regurgitation. 34 cases were studied: 13 syphilitic; 6 arteriosclerotic and hypertensive; and 15 rheumatic, 10 of this group also having mitral valve involvement. The rheumatic group showed no aortic changes; the syphilitic group showed dilatation of the aorta, increase in the size of the aorta in both views, prominence of the ascending aorta, large left hearts, or a flattened aortic knob; the arteriosclerotic and hypertensive group showed large transverse hearts, large left ventricle, tortuous aorta very wide in the antero-posterior view but normal laterally, or a prominent aortic knob. The X-ray diagnosis checked well with the clinical findings and diagnosis.

"Effect of Roentgenotherapy on the Heart"—Emery and Gordon (*Amer. Jour. Med. Sci.* 1925, 170:884) have studied 17 cases (9 by electrocardiogram and clinical examination, and 8 by autopsy) receiving roentgenotherapy of the chest and found no changes in the myocardium which could be attributed to this therapy in the ordinary doses used today.

"Variations in Heart Size"—Frick, Kenicott, and Karshner (*Calif. and West. Med.* 1925, 23:183) have observed the area changes, as computed in the orthodiagram, in cases during compensation and decompensation. They found the heart to decrease in size with clinical improvement.

"Peripheral Vessels"—Nielsen (*Munch. Med. Wchnschr.* 1925, 72:1143) points to the value of the X-ray in determining the presence of arteriosclerosis in peripheral vessels, often being able to rule out pain of a rheumatoid or neuritic type. Forestier (address Mass. General Hosp. Feb. 12, 1925) referred to the use of lipoidal in the peripheral circulation, particularly in localizing an embolus prior to embolectomy.

"Cinematography"—Ruggles (University of California) gave a demonstration November 28, 1925, to a small group in Boston, of moving pictures of a normally beating heart. Lambert (Demonstration, Harvard Medical Society, Jan. 26, 1926) and Lutembacher (*Bull. acad. de Méd., Paris* 1925, 93:746) have slow and fast films of isolated perfused hearts showing various types of arrhythmias.

#### VI. CARDIOGRAPHY AND ABNORMALITIES OF THE HEART BEAT

"Electrocardiography"—The third edition of Sir Thomas Lewis' work, "*The Mechanism and Graphic Registration of the Heart Beat*" (London: Shaw and Sons, Ltd., 1925) appeared during the year. It is in every sense a new edition. Much new material has been added, notably: full consideration of circus movement; the action of quinidin; and the origin of extrasystolic disturbances. This book continues to hold first place as an authoritative work on electrocardiography. Clere (Paris: Masson et Cie, 1925) has published a book "*Les Arythmies en Clinique*", giving largely the clinical features of the cardiac arrhythmias, including electrocardiographic illustrations of the various forms.

Wiggers (*Amer. Heart Jour.* 1925, 1:173) combats the views of Einthoven and associates, who believe that independence of electrical and mechanical reactions in the heart are partly due to technical errors in the manner of leading adopted, but largely to the fact that the sensitivity of apparatus utilized to record mechanical changes has in no wise equalled that employed to record electrical variations. Dogs were used for the experiments and optical manometers for recording intraventricular pressure. The manometers recorded intraventricular pressure without lag, rise of this pressure was considered an index of initial contraction, and surface negativity was determined by unipolar leads. The basis for the work is Wigger's contention that if electrical variations are an accompaniment of the contraction process, surface negativity should never precede, but follow by reasonable intervals, the rise of pressure within the ventricle in question. The results obtained, according to Wiggers, cannot be explained by assuming a synchronicity of electrical and mechanical processes in the dog's heart, but favor the view that electrical variations are an

accompaniment of impulse conduction preceding actual contraction by a definite time.

A study has been made by Alexander, Knight, and White (*Arch. Int. Med.* 1925, 36:712) of 132 patients who have shown by electrocardiograms P waves greater than 0.1 millivolt (1 mm.) in amplitude in Lead I or equal to or greater than 0.3 millivolt (3 mm.) in Lead II. Of these cases 19 showed definite congenital pulmonic stenosis; 3 showed doubtful pulmonic stenosis; 72 definite mitral stenosis; 6 doubtful mitral stenosis; 2 probable interventricular septal defect, and 18 sino-auricular tachycardia without mitral or congenital heart defects—a total of 120, or 91%, of the 132 cases.

Sprague and White (*Jour. Clin. Invest.* 1925, 1:389) report the presence of a Ta wave occurring after the P wave in electrocardiograms of clinical cases showing complete or high grade partial auriculo-ventricular block. 18 out of 37 cases of complete block showed this wave, which is believed to be an accurate expression of the terminal phase of auricular muscle activity.

Boseo (*Rev. Med. Lat.-Amer.* 1925, 10:1107) calls attention to the seriousness of a negative T wave in both Leads I and II, and to the fact that negativity of the T wave in a single lead has no diagnostic importance. Pardee (*Amer. Jour. Med. Sci.* 1925, 169:270) describes a peculiar form of the T wave seen in about one third of the cases of the coronary group. The significant feature is the presence in one or more leads, usually in only one, of a downward, sharply peaked T wave with an upward convexity of the S-T or R-T interval. If present in Lead III it is considered significant only when associated with a downward T wave in Lead II. Pardee considers the cause of this coronary T wave as due to the secondary reaction of repair about an area of deficient blood supply in the ventricular musculature. It only arises from coronary artery disease with narrowing of the lumen of a large branch, and many other abnormalities of the electrocardiogram may arise from the same cause.

The electrocardiographic findings in 14 cases of myxedema are reported by Thacher and White (*Amer. Jour. Med. Sci.* 1925, 171:61). They found a low T wave (inverted in 10 cases) in Lead II and a general decrease in potential of all deflections in all leads, increasing definitely after treatment. There is a distinct parallelism between the T wave of the electrocardiogram and the basal metabolic rate in hypothyroidism. Thacher (*Amer. Jour. Dis. Child.* 1924, 28:25) reports also the electrocardiographic study of 8 cretins and 12 mongolian idiots. The T wave was found to be lowered, flattened, or inverted in pure cretins, and by thyroid administration it can be brought up to

normal. There was no characteristic change in the records of the mongolian idiots.

Wood and White (*Amer. Jour. Med. Sci.* 1925, 169:76) report a series of 38 cases of uremia and severe chronic nephritis studied with reference to the electrocardiogram. 12 of these showed abnormal changes (other than axis deviation, sinus arrhythmia, or tachycardia) which could not be wholly accounted for except by consideration of a toxic effect of the products of uremia upon the heart muscle. The toxic effect acts in some respects like digitalis. It may produce changes in the T wave of Lead II, less often abnormal rhythm, and rarely an increase in the auriculo-ventricular conduction interval or in the duration of the Q-R-S complex.

Blitzsten and Schram (*Arch. Int. Med.* 1925, 36:770) have made electrocardiographic studies of 70 patients with diabetes (in 40 the blood sugar averaged 282 mg. per 100 cc., 150 mg. in 30). They also ran a control series of dogs and persons of same age, sex, etc. They found that changes in blood sugar concentration were associated with changes in the main deflections of the electrocardiogram, and notching of the main deflection (Q-R-S) occurred more frequently in diabetes than in control patients. Increasing the blood sugar in dogs caused an increase in the height of the Q-R-S wave.

Dieuaide (*Arch. Int. Med.* 1925, 35:362) reports a small series (10) of patients having pericardo-mediastinitis who showed no or very slight change in their electrocardiographic records with a shift in position. All those coming to autopsy (4) were found to have important lesions involving both the pericardium and mediastinum. In a larger series of patients with clinical signs of "adherent pericardium" whose records showed a marked change, none (4) were found post mortem to have lesions both of the pericardium and mediastinum. He suggests that fixation of the electrical axis, determined by this means, may serve as objective evidence of this lesion. Meek and Wilson (*Arch. Int. Med.* 1925, 36:614) stress the importance of having the heart in the normal position for all electrocardiograms, since they feel that it is impossible to tell how much change in position may effect the electrocardiogram or how much an abnormal electrocardiogram may be the result of variations in position, since the outcome is due to the summation of different rotations.

Hermann and Wilson (*Amer. Heart Jour.* 1925, 1:111) present the use of 16-20 gauge soft copper wire as electrodes in both clinical and experimental electrocardiography. They find it simple, sturdy, easy to apply, and the resistance low.

"Heart Block"—Hashimoto (*Arch. Int. Med.* 1925, 35:609) caused delay in auriculo-ventricular conduction and transient complete or partial block by the use of histamine intravenously

in dogs. 2 mg. of the dichloride for each kilogram of weight was used. Block lasted 4½ minutes and delay 12 minutes.

Hart (*Arch. Int. Med.* 1925, 35:115) presents a study of 25 cases with lesion of the bundle of His. He speaks of the rarity of lesions of the left branch, and gives electrocardiographic curves of two cases of complete auriculo-ventricular block. All of his cases had advanced heart disease in which a high mortality was expected.

Marvin and Buckley (*Heart* 1924, 11:309) add two cases of complete heart block in diphtheria to the 9 proved cases collected from the literature. The necropsy in the second case showed extensive changes in the myocardium, with prolonged damage to the conduction system. There was apparently a close correlation between the electrocardiographic evidence and the anatomic findings.

Gager and Pardee (*Amer. Jour. Med. Sci.* 1925, 169:656) report a case of intermittent complete auriculo-ventricular block. Syncopal attacks during the complete block were found to be due to ventricular standstill, varying from 6 to 20 seconds' duration, and the attacks followed the administration of digitalis. They conclude that in this instance changes in nodal and ventricular rhythmicity appeared to be the governing factor in producing standstill, while definite auricular and vagus influences were absent.

Anderson (*Jour. Amer. Med. Assoc.* 1925, 84:1492) reports 2 cases of complete auriculo-ventricular block with auricular fibrillation and ventricular premature beats. One case lived 2½ years after the onset, while the other is living 11 months after onset. Polygraphic tracings are printed.

Smith (*Neb. State Med. Jour.* 1925, 10:481) reports a case of complete block in a man of 70 years. Zander (*Hygieia, Stockholm* 1925, 87:657) reports a case of complete block recognized at the age of 7 years, who at the age of 20 years at present has full earning capacity. Bullrich and Lacroze (*Rev. Assoc. Méd. Argent.* 1925, 6:241) adds a case of heart block and auricular fibrillation occurring 3 months after a fall from a horse, injuring the left side of the chest.

Bickel (*Arch. d. Mal. du Coeur* 1925, 18:39) reports a case of Adams-Stokes syndrome, with heart block, in a man of 48, in which the condition was exaggerated by neoarsphenamin. Clarke and Smith (*Amer. Jour. Med. Sci.* 1925, 169:882) cite a case of block due to a gumma of the ventricular septum, the spirochetes being demonstrated in the ventricular tissues post mortem. They also report a case of block in which normal rhythm has persisted since removal of an infected gall bladder.

"Auricular Fibrillation"—Ogden (*Amer.*

*Jour. Dis. Child.* 1925, 29:767) reports a case of auricular fibrillation in a child, aged 10 years. The child had had diphtheria, chickenpox, and influenza. Only three cases of patients 10 years of age or less, have been reported in the literature; 2 were rheumatic in origin and one followed diphtheria. Clarke (*Mich. State Med. Soc. Jour.* 1925, 24:243) presents 3 cases in which syncope appeared to be due to the onset of paroxysmal auricular fibrillation.

"Ventricular Fibrillation"—Donzelo (*Méd. Paris* 1925, 6:442) reports 2 cases of death with Adams-Stokes syndrome. Death occurred after a phase of irregular tachycardia due he believes to ventricular fibrillation. Von Hoesslin (*Klin. Wchnschr.* 1925, 4:62) presents a case with complete heart block and Adams-Stokes syndrome, the attacks beginning with what he terms ventricular fibrillation followed by a standstill of the ventricles.

"Auricular Flutter"—Wolferth (*Arch. Int. Med.* 1925, 35:42) cites two cases exhibiting fleeting paroxysms of abnormal auricular action closely resembling auricular flutter. These paroxysms were regarded as forms of "impure" flutter. In both cases, the arrhythmia disappeared following surgical treatment of hyperthyroidism.

"Paroxysmal Tachycardia"—A case of tachycardia of auriculo-ventricular nodal origin is described by Drury (*Heart* 1924, 11:405) in which retrograde heart block and reciprocal rhythm are clearly and constantly displayed during the paroxysms. Sprague and White (*Med. Clin. N. A.* 1925, 8:1855) present clinical observations on 3 interesting cases of auricular paroxysmal tachycardia, exhibiting heart block at times during the paroxysms. Quinidine did not help. Digitalis was of benefit in one, and slightly in the other 2 cases.

Willius (*Ann. Clin. Med.* 1925, 3:537) reports a case of paroxysmal tachycardia with multiple foci of stimulus production. The first abnormal mechanism consisted of two foci in the ventricle, which suddenly shifted to a point in the auricle with the abrupt onset of auricular flutter, and slowing of the ventricular rate. Subsequently auriculo-ventricular rhythm developed. Quinidine controlled the attacks almost completely.

Thomas and Post (*Jour. Amer. Med. Assoc.* 1925, 84:569) suggest that paroxysmal tachycardia may be the cardiac manifestation of migraine, occurring in patients and in circumstances wherein sick headaches might occur, and may be the only manifestation of migraine. A man, aged 34 years, is cited who had severe migraine for years. Finally frequent attacks of paroxysmal tachycardia occurred, with a coincident relief from headaches. Laubry and Fournier (*Bull. et Mem. Soc. Méd. d. Hôp. de Paris* 1925, 49:404) point to the possibility of a common origin of asthma and paroxysmal tachycardia.

Four cases are reported in which each paroxysm of tachycardia was followed by an attack of asthma, and 3 other cases of tachycardia occurring after asthma, persisting for years after the latter had cleared up.

"Extrasystoles"—Of 100 cases of extrasystoles reported by Smith (*Neb. State Med. Jour.* 1925, 19:78), 56 have been restored to normal rhythm, 40 have changed little, and 4 patients have died. In 27 cases removing the etiologic factor (coffee, tea, cocoa, tobacco, acetylsalicylic acid, digitalis or strychnin) quickly cleared up the irregularity. In 31 cases with infections and toxemias outside the heart, 12 were restored to normal rhythm upon clinical improvement, 19 having extrasystoles at intervals yet. In one hyperthyroid patient the extrasystoles disappeared upon return to normal metabolism. In 3 influenza patients, one yet has intermittent extrasystoles; in 4 highly neurotic patients, no treatment excluded the extrasystoles; in 14 cases in which no cause could be assigned, 6 are normal after receiving potassium iodid and sodium bromide. Lutembacher (*Arch. d. Mal. du Cœur* 1925, 18:65) reports a case of a man of 58 with hemiplegia, having frequent auricular extrasystoles, sometimes supplanting the sinus rhythm. The foci were in various parts of the auricle, the P waves being at times positive and at others negative.

"Ventricular Escape"—Wood (*Amer. Jour. Dis. Child.* 1925, 30:50) reports a case of ventricular escape in a child, aged 11 years. Otherwise the tracing was normal, except for sinus arrhythmia, and occasional premature beats. The escape of the ventricle was apparently dependent on the lengthened diastolic pauses of sinus slowing of expiration.

(To Be Continued)

#### THE LESLIE DANA MEDAL

MR. LESLIE DANA, on retiring as Chairman of the Missouri Commission for the Blind in 1925, established a special fund to be utilized by the Missouri Commission for the annual purchase of the Leslie Dana medal for the Prevention of Blindness, the award to be made by the National Committee for the Prevention of Blindness in coöperation with the Missouri Commission for the Blind under the following conditions:

- Long meritorious service for the conservation of vision in the prevention and cure of diseases dangerous to eyesight.
- Research and instruction in ophthalmology and allied subjects.
- Social service for control of eye diseases.
- Special discussion in the domain of general science or medicine of exceptional importance in conservation of vision.

The announcement has been made that the medal will be awarded to Louisa Lee Schnyler, LL.D.—*News Letter of the National Committee for the Prevention of Blindness.*

**Case Records**  
*of the*  
**Massachusetts General Hospital**

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN  
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY

RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.  
F. M. PAINTER, A.B., ASSISTANT EDITOR

**CASE 12181**

**A PROBLEM INVOLVING INTERPRETA-  
TION OF RADIOGRAPHIC SHADOWS  
AT THE BASE OF THE RIGHT LUNG**

**MEDICAL AND SURGICAL DEPARTMENTS**

An Irish-American widow sixty-five years old entered June 8 complaining of pain in the stomach. Her father died of rheumatism and heart trouble. At thirty she had "rheumatic fever". Her catamenia were always rather painful. At fifty-five, with the menopause, she used to have headaches. She had had none since that time. At fifty-nine she had bronchitis, at sixty mumps.

She was perfectly well until two years before admission. Then she began to have attacks of "tearing" sharp pain in the pit of the stomach lasting from three to ten minutes and severe enough to make her lie down on her back. She could not lie on either side. At first the pain usually occurred just before meals; now it occurred at any time. Occasionally she was very hungry, but most of the time her appetite was poor, growing steadily less, and the pain more constant and severe. She had steadily lost weight and strength. Occasionally the pain radiated down to the "bowels", but always started in the same place, the midepigastrium. It was not relieved by soda or food. Six weeks before admission she began to have nausea and vomiting after meals without relief, increasing until she could now keep little or nothing on her stomach. The vomitus was food just eaten and bile. Her bowels, previously regular, had been constipated ever since the beginning of the present illness. She had never been jaundiced and never had blood in the vomitus or stools as far as she knew. For the past two weeks she had been very weak. Five years before admission she weighed 138 pounds, her best and usual weight, two years before admission 110. She now weighed 91.

Examination showed an emaciated, wrinkled old woman. Several teeth were missing and several bad. The location of the apex impulse of the heart is not recorded. There was no enlargement to percussion. The sounds and action were normal. There was a loud blowing

systolic murmur at the apex. The pulses and artery walls were normal. The blood pressure was 120/75. The rest of the examination was negative.

The chart was not remarkable. The urine (not a catheter specimen) showed a few leucocytes, no albumin. The blood was normal except for an increase in the number and size of the platelets. A Wassermann was negative. The stools showed a positive guaiac at the last of four examinations; no macroscopic blood. Gastric analysis June 12 gave 12 c.c. of clear colorless fasting contents, no free acid, combined acid 1 per cent., guaiac negative. A test meal gave 20 c.c. of clear colorless material, free acid 11, combined acid 14, guaiac negative.

X-ray showed the stomach of the orthotonic type, normal in position, freely movable. The curvatures were smooth. No definite filling defects were seen. Peristalsis was regular. There was no retention from the motor meal. The first portion of the duodenum appeared normal in contour and in the usual position. The six-hour meal had reached the cecum. There was no definite evidence of organic disease of the stomach or duodenum. A barium enema showed no definite evidence of organic disease in the large intestine. Reexamination of the upper gastrointestinal tract and the esophagus twelve days later confirmed the previous negative findings. Examination of the chest showed the hilus shadows increased, particularly the right, both in size and density. There were small dense apparently calcified glands in this region. The lung markings on both sides, particularly those extending into the upper lobes, were prominent. The outlines of the diaphragm were sharply defined. The respiratory movements were normal. There was no evidence of consolidation in the lung fields.

On a five-meal gastric régime the vomiting and pain stopped and the patient gained weight. An electrocardiogram showed normal rhythm, rate 90, prominent P2 wave, somatic tremor. June 26 she complained of shooting pains in the right flank. June 27 she was discharged to the Out-Patient Department, to be kept under observation.

For three weeks she felt very well and increased in weight to 105 pounds. Then she suddenly began to lose appetite, weight and strength. In the first week of August she began to have drenching night sweats and in the mornings was so weak she was hardly able to stand. From the time of her discharge her bowels were rather persistently constipated. Two or three weeks before her readmission, August 26, she swallowed sputum and without previous nausea vomited once or twice a day for a few days. She had no cough. Ten days before readmission she had severe pain in the right flank radiating upward to the right shoul-

der along the right thoracic wall, worse on inspiration. For a week before her readmission she urinated only twice by day but four or five times at night.

She came to the Emergency Ward August 26 because of pain, and was sent to the wards. The

Before operation the temperature was  $97.4^{\circ}$  to  $103^{\circ}$ , the pulse 80 to 120, the respiration 20 to 36. A catheterized specimen of urine was dark and showed clumps of pus and ten to fifteen leucocytes per high power field. Two or three other specimens showed one to fifteen

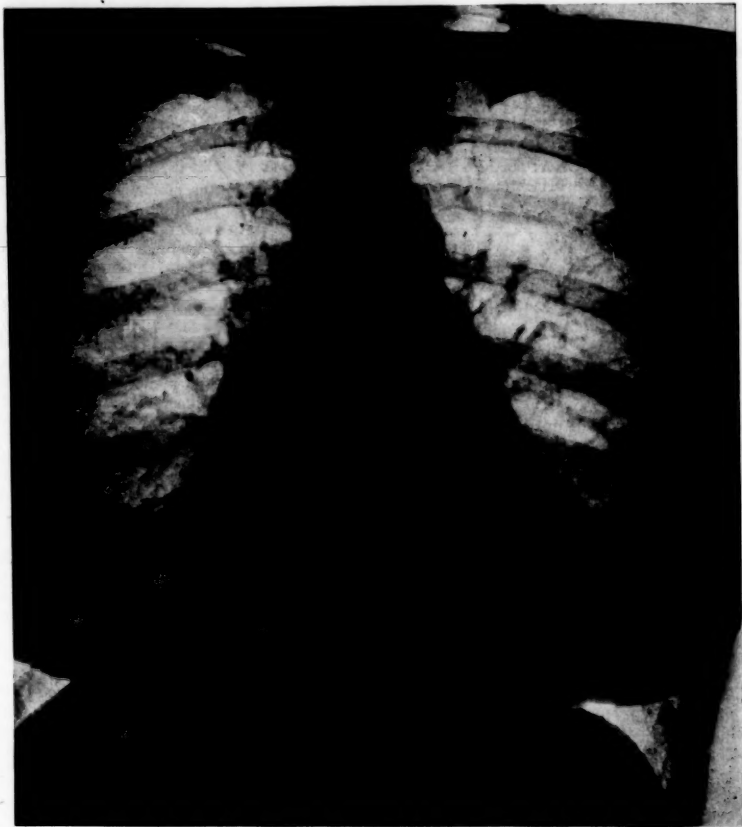


PLATE I. June 15. The hilus shadows are increased, especially the right, both in size and density. There are small dense apparently calcified glands in this region. The lung markings on both sides, particularly those extending into the upper lobes, are prominent. The outlines of the diaphragm are sharply defined. There is no evidence of consolidation in the lung fields.

other outstanding symptoms were weakness and anorexia.

Examination showed the right diaphragm fixed. There was dullness with absent breath and voice sounds at the right base posteriorly. There were spasm, tenderness and dullness in the right upper quadrant, and right costovertebral tenderness. The radials were palpable. Rectal examination was negative.

leucocytes, one a trace of sugar. The specific gravity was 1.020 to 1.022. The renal function was 35 to 40 per cent. The blood showed 19,600 to 13,800 leucocytes, 88 per cent. polynuclears, hemoglobin 65 per cent., 3,280,000 to 3,980,000 reds, fair color, very slight anisocytosis, no poikilocytosis, stippling or polychromatophilia; platelets slightly increased. Non-protein nitrogen 27 mgm. Wassermann negative. The spu-

tum was purulent and foul. Smith stain showed Gram-positive diplococci, rare bacilli, staphylococci, large amounts of pus, no tubercle bacilli.

distinct. The interlobar septum was visible. By fluoroscope the outline of the diaphragm could not be distinctly made out. With respiration there was some motion of the parts in

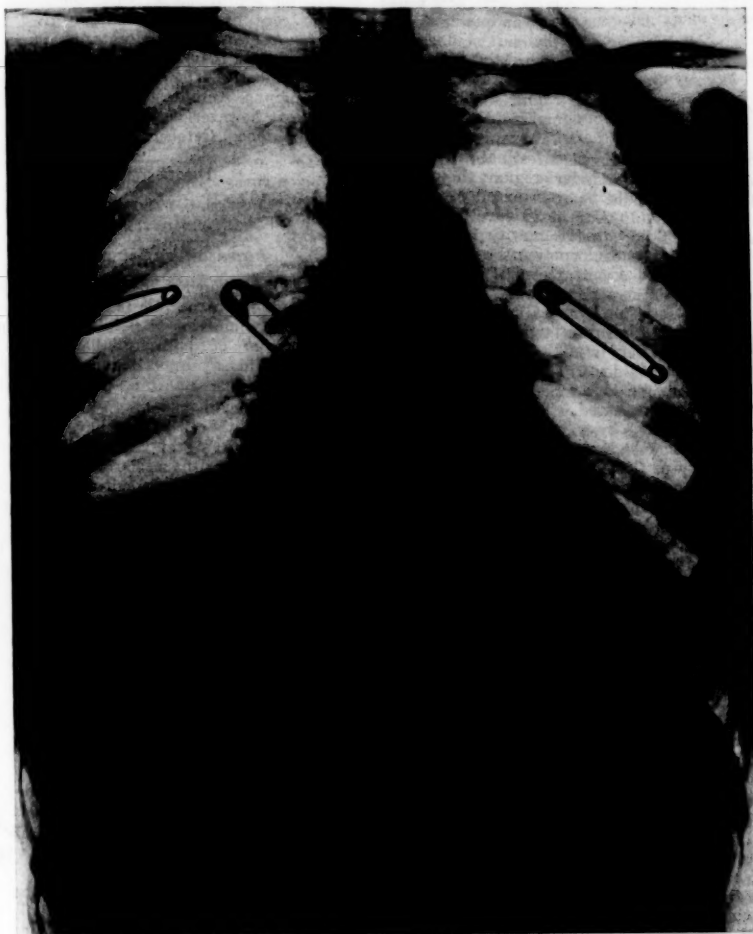


PLATE II. August 27. The lung markings extending from the region of the hilus to the right base are distinctly increased in prominence. There is some mottling in the lung field at the right base. The outline of the diaphragm is rather indistinct. The interlobar septum is visible. The heart shadow is increased in size in the region of the left ventricle, somewhat triangular in shape, suggesting some hypertension.

X-ray showed the lung markings extending from the region of the hilus to the right base distinctly increased in prominence. There was some mottling in the lung field at the right base. The outline of the diaphragm was rather in-

the usual location of the diaphragm, suggesting that excursion was not altogether impaired. The changes appeared to be localized in the right lower lung. The heart shadow was increased in size in the region of the left ventricle, some-

what triangular in shape, suggesting some hypertension. The measurements were as shown in the diagram. August 27 films of the urinary

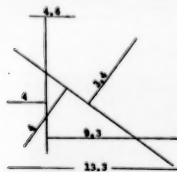


Chart 73.4

tract did not show the kidney particularly well because of gas and motion. In the left kidney region, slightly to the left, was a large round shadow of increased density, probably representing the intestinal shadow.

Films of the gall-bladder region showed no shadows which could be interpreted as calculi. A right chest tap August 28 gave 200 c.c. of straw colored fluid, specific gravity 1.012, 3,100 leucocytes, 96 per cent. polynuclears, 130 red blood corpuscles. A culture was lost.

By August 30 the abdomen was soft and without tenderness. The temperature was normal, the pulse and respiration tending downward. The patient was very weak. She still had pain in the right shoulder. The signs were still present at the right base. September 1 the kidney plates were repeated. The kidney outlines were still obscured by a large amount of gas. There were no shadows indicating stone. A Graham test was then done. The patient vomited twice half an hour after taking the capsules. There were no capsules in the vomitus. Films of the gall-bladder taken at various intervals showed no shadow which could be identified as the gall-bladder. Apparently none of the dye had entered it. Neither kidney outline could be identified because of motion. There was considerable foreign material present in the colon. The right sacroiliac joint was distinctly hazy. The articular surfaces were very poorly defined, suggesting an infectious process in this region.

The following morning the patient coughed for the first time, raising quantities of very foul greenish pus. A chest tap gave 45 c.c. of very foul pus with staphylococci and streptococci in the smear, many cells, 94 per cent. polynuclears. Culture showed pneumococci and Gram-positive and Gram-negative bacilli. The white count rose to 39,200, the temperature to 102°. The patient was in good condition.

September 3 X-ray showed that the process at the right base seemed to have increased somewhat since the previous examination. The dullness was of a mottled character and suggested some consolidation. The diaphragms were obscured. In the region of the diaphragms there was a line of increased density which appeared to rise in the axilla.

September 4 operation was done. There was some pain from the wound and slight serous drainage. The cough was productive of foul sputum. September 8 X-ray showed distinct mottled dullness involving the lower portion of

the right chest, most marked in the region of the hilus. The outline of the diaphragm on the right was rather indistinct. Overlying the resected portion of the eighth rib was a rounded area of diminished density. The pain in the wound, the septic temperature, the cough and sputum continued. The patient grew much weaker. A medical consultant pronounced the condition better than before operation. The patient slept poorly. The dressings showed a small amount of pus. Another operation was planned. The patient however became much weaker, and it was not done. October 1 she died.

#### DISCUSSION

BY RICHARD C. CABOT, M.D., AND  
LINCOLN DAVIS, M.D.

#### NOTES ON THE HISTORY

DR. CABOT: Properly, of course, "pain in the stomach" ought to be put in quotation marks. Nobody ever complains of pain in the stomach; they complain of pain in the epigastrium. Again I should say quotation marks would be good for "rheumatism" and "heart trouble".

Here is a woman who up to sixty-three was essentially well, then begins to have pain at the epigastrium occurring at various times, not directly connected with meals, not relieved by food or soda, going on to vomiting, resulting in loss of weight and strength. She has never been jaundiced and has had no fever.

I suppose if anyone had to guess on this, without more evidence, he would say "gastric cancer". If he had to say the second most probable thing he would say, "There is nothing else that is probable in the absence of jaundice, in the absence of radiation of the pain, or of any attacks that we can really call gall-bladder attacks. The chronicity of the thing excludes the pancreas." On the history alone it seems to me cancer of the stomach first and no second.

DR. FRANCIS M. RACKEMANN: Isn't that a pretty long progress,—two years?

DR. CABOT: Yes, but not unexampled. We have all seen a few cases that have lasted as long as that. And then there is always the possibility that it was not cancer in the beginning,—the Mayos' possibility.

#### NOTES ON THE PHYSICAL EXAMINATION

So far as the circulatory system is concerned we have nothing to look for there apparently.

I suppose the rest of the urine examination was normal or negative, so the kidney is ruled out. That might have been discussed earlier, because of course we have very severe indigestion due to kidney trouble, but not, I think, so severe or with so much pain as we have in this case.

Increase in the number and size of the plate-

lets is certainly not of any importance when it comes by itself, with no other blood lesions.

This is the stomach analysis of people with cancer, with ulcer, with a normal stomach. It tells us nothing that I see.

The X-ray was negative. Of course that is strongly against my first guess. We have had cases here where cancer of the stomach was proved by operation when the X-ray men had gone clean wrong. But we have not had many, and they were some time ago. I think there is very little probability of organic gastric or colonic disease with such an X-ray as that. We cannot investigate the small intestine by X-ray.

DR. ROBERT J. REEVES: We do not see anything much in the first plate except some fine mottling in the hilus region and the peculiar dome-shaped shadow of the right diaphragm which we see often in normal cases. But it is quite sharply outlined here. The plate taken two months later shows some process either in the chest or below the right diaphragm with extension into the right chest. It is hard to say from the plate alone whether it is primarily in the chest or an extension from a process below. Another taken a week later, Aug. 26, shows some extension of the process. Here there is question of fluid I believe. Four days later there is definite increase in the process. It has extended up to the fourth rib in front. It does not resemble fluid at this time, but is more like diffuse infiltration. The next plate was taken a week later still; there is not very much change.

DR. CABOT: Had there been radiation in the meantime?

DR. REEVES: I do not think this patient had irradiation at all. I cannot say whether or not the chest was tapped.

DR. CABOT: Is that pneumothorax?

DR. REEVES: A drain was put in here, when this plate was taken. I do not know how much drainage was obtained. There was evidently not enough free pus to get good drainage. By following these plates through, beginning as a small process just above the diaphragm, I think we should have to consider a process below the right diaphragm with extension to the chest.

DR. CABOT: That process was probably something solid, or something fluid?

DR. REEVES: I do not think there is complete consolidation here. There is some fluid. It is not all fluid. There is extension into the lung tissue.

DR. CABOT: We have anticipated quite a bit of the history in going over these plates, but could not very well help it. In the beginning they did not commit themselves as to anything particular in the chest. The question is, what diagnosis did they make at the time of her discharge? My guess is that they did not make any. I cannot make a diagnosis on the strength of what we have here. What did they say?

MISS PAINTER: Constipation.

DR. CABOT: That is an old trick. I think they agree with me very well. They do not know what is the matter. They do not really believe that she lost all that weight from constipation. I do not believe that diagnosis was serious.

Neither such weakness nor such anorexia can very well be explained by constipation.

I take it that Litten's shadow was not apparent. I do not see how else they know that the diaphragm was fixed.

I doubt whether in the long run we shall find that this urine examination means anything. I doubt whether the kidneys will show anything, from what we have seen so far.

There is a secondary anemia which has appeared since the first entrance. We have to find a cause for that secondary anemia.

"The heart shadow was increased in size in the region of the left ventricle, somewhat triangular in shape, suggesting some hypertension." I think that last is a pretty strong statement. It is a queer looking heart certainly.

DR. RACKEMANN: Might it not be pushed over from something in the right base?

DR. CABOT: I do not see why it could not be. But I should demur to the statement about hypertension. I do not believe anybody can judge that from X-ray. Is there a normal intestinal shadow?

DR. REEVES: Yes, sir. Gas in the colon shows as decreased density. This is a negative shadow.

DR. CABOT: It says, "In the left kidney region, slightly to the left, was a large round shadow of increased density, probably representing the intestinal shadow." I did not know it meant air.

DR. REEVES: This plate shows the sacroiliac covered with a great deal of intestinal gas. There seems to be involvement of the right sacroiliac. The thickening along the border and obscuring along the joint margin is more than that compared with the opposite side. This appearance is also often caused by rotating the patient from the direct anterior-posterior position.

DR. CABOT: These are all the facts we have a right to before operation. Clearly most of the pathology of which we have any knowledge up to date is in the right chest. If there is anything below the diaphragm I do not see that we have any definite facts on which to say so. We do not know anything about the kidney, the intestines, the stomach, or any other organs, on the basis of which we can say there is disease there. Our knowledge does not exclude disease below the diaphragm, but does not enable us to say disease is there. There is something in the right chest, something that has been there a long while, something compatible with the vomiting of pus. What can that something be? I should say it cannot be merely empy-

ema. I cannot imagine that the pictures we have seen in the X-ray plates and the history we have just read are compatible with empyema alone. She would not die of that empyema alone,—if that is all there was, unless from some complication other than the empyema itself.

Of course at her age, and with the appearances shown by these X-ray plates, malignant disease in and probably outside the lung too would be the thing that would come to mind first. Malignant disease is perfectly compatible with pus, both coughed up and obtained by tap. That is, if malignant disease works through into the pleura and lets out bacteria from the lung itself, we shall have localized empyema. If there is blocking of the bronchi and retained secretions, we shall then get foul pus when that breaks loose and gets coughed up.

Have we any reason to suppose a foreign body in the lung? I should not think we have. At this age sane people do not usually swallow such things without knowing it.

DR. RACKEMANN: There is a slow gradual onset.

DR. CABOT: I do not know anything else we can consider here except some chronic pneumonia. It cannot be tuberculosis starting at her age. I do not know any pneumonia that will start there and block up a bronchus and cause foul pus. I do not believe it is that.

The only other things to be mentioned are rare lung parasites. I do not know enough about the echinococcus to judge. But I should suppose that the outline of any shadows due to that would be different from this, very much more spherical, and that in the sputa we should have a very different fluid. I do not believe therefore that animal parasites need to be seriously considered.

I cannot think of anything else except malignant disease. But, of course they never would operate for malignant disease, so—

DR. YOUNG: If this is malignant disease that had reached the pleura, why didn't they get the ordinary bloody fluid in the first tap?

DR. CABOT: That is certainly perfectly logical. I can't answer that.

DR. YOUNG: Did she have a septic temperature from the start?

MISS PAINTER: At the first admission there was no temperature at all. At the second it was septic from the beginning except for three days when it was normal, August 29-31.

DR. CABOT: Of course she certainly had sepsis here. I had supposed it to be secondary to something else.

DR. YOUNG: I was wondering whether it could be a subdiaphragmatic abscess which had gone through.

DR. CABOT: To be sure, her symptoms were subdiaphragmatic from the start. We should like to know something to account for them.

DR. REEVES: Wouldn't the X-ray plates be against malignancy in the lung?

DR. CABOT: Not so far as I know. From what I know I should suppose they were for it.

DR. REEVES: The first plate with the peculiar dome and the extension of the process.

DR. CABOT: I understood you to say that doming was not abnormal.

DR. REEVES: In a large number of cases it is not.

DR. CABOT: You know a great deal more about malignant disease of the lung than I do. I had supposed that those plates were the pictures of malignant disease with extension.

DR. YOUNG: Would that X-ray rule out trouble below the diaphragm?

DR. REEVES: No.

DR. CABOT: I think Dr. Davis must have operated with a diagnosis of empyema. I do not think he could have operated on a diagnosis of malignant disease, so I think I am probably wrong.

DR. RACKEMANN: Didn't she almost surely have an empyema? The point is, what is it caused by?

DR. CABOT: I have assumed empyema due to malignant disease, and under those conditions he never would have operated.

DR. YOUNG: I do not know what it is. It does not fit any diagnosis. I don't see anything but malignant disease when we come down to it.

DR. RACKEMANN: Is there any chance of embolus, giving rise to a lung abscess and afterwards to an empyema?

DR. CABOT: I should say not. In the first place we do not have a lung embolus without something in the heart or periphery. She had no heart symptoms. If she had had a decompensated heart and a good chance for a right ventricular clot, or something in the leg, we could say she did. But I do not think we could say so on this. And there is nothing of that suddenness that we get with a lung embolus so far as I know. I think we can rule that out.

DR. RACKEMANN: I cannot say anything better than malignant disease.

DR. CABOT: I do not believe it is that myself, but I can think of nothing else that is logical.

DR. YOUNG: Subdiaphragmatic abscess as a poor second I think we ought to put in. Pneumococcus abscess of the lung?

DR. LINCOLN DAVIS: I do not recollect clearly what I thought at the time. They told me that they had a localized empyema, that they had put in a needle and got some pus. As I remember, the transfer diagnosis was a localized empyema. My recollection is that I suspected that there was something coming from the abdomen, a subdiaphragmatic abscess that had come through the diaphragm.

DR. CABOT: Was I right in saying that if

you had been sure that there was malignant disease there you would not have operated?

DR. DAVIS: Malignant disease of the lung? No.

DR. CABOT: Even though there were a secondary empyema?

DR. DAVIS: No, I do not think so. I remember this woman perfectly and I can visualize the case absolutely. But I have no recollection of what the necropsy showed, and I suppose the reason is that I did not see that necropsy.

This case was transferred to us from the medical service. They had put in a needle and got foul pus. She was running a septic temperature, and we had the X-rays. We thought she had a localized empyema, but I think that I had some suspicion that it might have come from subdiaphragmatic abscess that had perforated through. I would like to take exception to one statement in the history. She was really in miserable condition,—a very frail old woman in precarious condition.

#### X-RAY INTERPRETATIONS

August 27. The changes in the right lower lung suggest an infectious process in this region.

September 3. The increased density in the right axilla suggests fluid.

#### PRE-OPERATIVE DIAGNOSIS

Empyema.

#### OPERATION

Under local novocain anesthesia an incision two and a half inches long was made along the ninth rib midway between the axillary line and the vertebral column. The eighth and ninth ribs were resected in the scapular line. The pleura showed no signs of thickening or inflammation. A needle inserted in various directions failed to get pus. The pleura was then opened and was found partially adherent to the lung. It seemed evident that the process was in the lung. A sponge was packed into the wound to favor further adhesions before draining the abscess.

#### FURTHER DISCUSSION

DR. DAVIS: The incision that I made was at the exact point where the house officer had obtained foul pus.

The visceral pleura of the lung was not entirely adherent to the parietal pleura, and I did not dare to make any attempts at that time to reach what I then felt was an abscess of the lung until the adhesions had become complete. I found no empyema whatever, and then suspected an abscess of the lung.

DR. CABOT: The rounded area of diminished density seen on September 8 was the pneumothorax, I take it.

I suppose "infectious process" means abscess. I do not see what else it could mean. I should say that they were quite clear about that. They did not think it was malignant disease, and probably could have expounded to us more what those signs should have shown to their eye.

#### DIFFERENTIAL DIAGNOSIS

It is very hard to keep one's mind uninfluenced by the kind of straws that are floating around. From the X-ray Department I get a pretty strong hint that this is not malignant disease. At the same time I know without that I should have said neoplastic. This bulging over the liver I think I have often seen, and should not think of subdiaphragmatic abscess coming up by reason of that. I should not suppose an abscess would make the lung shadows we saw in that plate. I should have said malignant disease. I still do not know whether this is abscess or malignant disease. But I do not believe, aside from things that I have no right to know, that I could say anything but malignant disease.

DR. DAVIS: I thought after the operation that it was an abscess of the lung, felt quite sure of it. I thought there had been an inflammatory process below the diaphragm that had perforated the diaphragm into the lung. After that resection of the ribs, when adhesions had formed between the lung and the parietal pleura, I expected to explore further. But her condition continued to be so bad that I did not feel like doing it. We did however explore with a long needle in various directions, but never got any pus. By that time she was failing so rapidly that I thought it was useless to attempt any further operation.

DR. CABOT: I do not believe operation killed her. You gave her every chance.

DR. DAVIS: No, I do not think so. My mind is a complete blank as to what the autopsy showed.

#### X-RAY INTERPRETATION

September 7. The area of diminished density above the resected portion of the eighth rib somewhat suggests cavity. The changes are those of consolidation of the lower right chest with possible cavity formation. There may be a small amount of fluid.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Subphrenic abscess.  
Bronchopneumonia.  
Rib resection.

#### DR. RICHARD C. CABOT'S DIAGNOSIS

Malignant disease of the lung.

## ANATOMICAL DIAGNOSIS

Abscess of liver with extension to right lung.  
Septic spleen.

DR. RICHARDSON: The report states this woman was well developed, slightly obese.

DR. EDWIN F. CAVE: She was extremely emaciated.

DR. RICHARDSON: The head was not examined. In the peritoneal cavity no excess of fluid. The margin of the liver was one-fourth inch below the border. The stomach and intestines are stated to have been negative. The mesenteric and retroperitoneal glands were negative.

The liver weighed 1690 grams,—a good sized liver. The surface was smooth. On cross section a large abscess containing brownish pus was found in the dome.

DR. CABOT: That is, in the liver itself?

DR. RICHARDSON: Yes. The report states that the abscess is frankly negative and there was communication between it and the right lung. How did you find the pleural cavities?

DR. DAVIS: Negative when I operated.

DR. RICHARDSON: It is further stated that the right lung was bound down at the base and there were a few adhesions at the apex. The left lung was practically free, although there was a little necrotic area at the base which communicated with the abscess of the liver, and contained some colored fluid. There was a certain amount of congestion in the lungs. No pneumonia was found. I cannot find anything about the trachea and bronchi. It would be interesting to know what relation the bronchi had to the condition found.

The heart was negative. There was a slight amount of sclerosis of the aorta. The pancreas was negative. The spleen was dark red and soft. The kidneys showed no definite nephritis.

The examination of pus from the liver was negative for amebae. Nothing is said about the bile-duets or the portal vein. There was a streptococcus and staphylococcus septicemia.

DR. CABOT: Would you read the description of the right lung as it is given there?

DR. RICHARDSON: "There is communication between it and the right lung. The right lung is bound down at the base; there are also a few adhesions at the apex."

DR. CABOT: There certainly was a lot in the right lung, as we can prove by the X-ray. There is no diagnosis of abscess of the lung?

DR. RICHARDSON: No. "Abscess of the liver with extension to the right lung."

DR. CABOT: One thing we know perfectly well is that she did not have malignant disease, and I guess there is no doubt that she did have abscess of the lung even though it is not in those records.

DR. RICHARDSON: Yes. There was nothing in the peritoneal cavity, so that would look as if it had extended through the uncovered space, and that kept it out of the peritoneal cavity.

DR. YOUNG: How common is it to have infection come from above the diaphragm down?

DR. RICHARDSON: From the statement given in the record I should think that the abscess of the liver had extended up into the lung.

DR. DAVIS: It is interesting to speculate how Dr. Reynolds got his needle into that pus, whether the needle went into the liver or into a lung abscess. I presume there was a small abscess in the lung and his needle went into it.

## CASE 12182

## AN UNUSUAL END RESULT OF THYROIDECTOMY

## MEDICAL DEPARTMENT

An unmarried Irish girl seventeen years old entered for the first time in January, 1917. Her family history was unimportant save that one brother died of diabetes at seventeen. Three years before admission she had diffuse swelling of both sides of the neck, not relieved by tonsillectomy. The swelling lasted five months and was accompanied by great pain in the ears, with discharge of pus. She urinated once or twice at night.

Six weeks before admission she noticed that her throat was swollen and sore. On swallowing she had dull aching of the throat inside and outside. For three weeks she had had an eruption on the arms starting as little itching blisters. Two weeks before admission she began to be very nervous, could not sleep, and had twitching of the hands. For a week she had had considerable cough, often making her vomit all her food, and had been unable to work. She had developed an abnormally large appetite, though her weight had fallen from 150 pounds six weeks before admission to 116 a week before admission. She felt feverish.

*Examination.* She was well nourished, rather tremulous. There was questionable slight exophthalmos; no Möbius or Von Graefe. The skin was dry, but the palms were moist and warm. A fading maculopapular eruption was present over the forearms and the legs. A skin consultant made no diagnosis. The neck showed prominent carotid pulsation. There was symmetrical enlargement of the thyroid with faint bruit. The heart action was rapid. The lungs were normal. There was some tenderness in the left loin. The fingers showed slight fine tremor. Pelvic examination showed very slight tenderness of both vaults. Physical examination was otherwise negative.

*Laboratory data.* The urine was cloudy at both of two examinations, specific gravity 1.013

to 1,027, amount 18 to 65 ounces, sediment negative. Renal function 35 per cent. Blood 6,000-9,600 leucocytes, 47 to 64 per cent. polynuclears, hemoglobin 70 per cent., differential count, reds and platelets normal. Wassermann negative. Vaginal smear and culture from it negative. The basal metabolic rate was done three times: +42 per cent., +45 per cent. and after one month in the hospital +33 per cent.

X-ray was negative except for enlarged and calcified glands at the right lung root.

Reports of consultants: Surgeon. "Do not advise operation at present." Laryngologist. "Nose suggests atrophic rhinitis. Acute lesion of left tonsil suggests X-ray." Oculist. "On examination without drops the eyes are normal. Headaches apparently not ocular."

The temperature was normal. The pulse fell from 120 to 87. The respiration varied from 32 to 21.

The patient was given a special diet for twelve days, then given extra diet without coffee. On the ninth day she was put upon quinine hydrobromate gr. v. four i.d. She remained in the wards a month without much change.

A week after her discharge she was operated upon for exophthalmic goiter at another hospital. She was told the entire thyroid was removed. After recovery from the operation she was much better, much less nervous, with decreased tremor and exophthalmos, and felt well. Six months later the swelling in her neck recurred without eye changes or cough but with slight nervousness and some wheezing. She was told at the hospital where the previous operation was done that the thyroid had grown again, and was again operated upon at the same hospital.

For about two months after this operation she felt well and began to go about again. Then her present trouble began, namely, constant difficulty in breathing, more upon expiration than inspiration. She wheezed more or less all the time. She thought the obstruction was in her throat. In winter she had frequent colds and the obstruction was worse. Coughing and exertion also made it worse. There was no known relation to animals, plants, food, etc. It was worse during the night, but relieved when her head was raised on pillows. At times she was comfortable lying flat. Ever since her second operation she had had frequent attacks in which she could not move or speak for a few minutes. She did not lose consciousness. After the "paralysis" passed off, her arms and legs would feel stiff and hard to move for a few minutes, sometimes all night. For the next two or three days her arms, legs and face would be puffy and swollen.

In 1919 cataracts began to develop on both eyes. Records of the Eye and Ear Infirmary show three operations in September, 1919, for

immature cataracts of both eyes,—dissection O. D. and O. S., linear extraction O. D., lense O. S. well broken up. For two years before her readmission she did not go out except for an occasional automobile ride. Not long before her readmission she had two or three severe attacks lasting five minutes or so in which she became pale but not cyanotic, felt hot, sweat a good deal, and felt as though she could not breathe at all. She had slight palpitation with excitement. Two months before readmission she had some soreness over the precordia. She now weighed 114 pounds. She thought she had lost weight.

She reentered the hospital in January, 1926.

Examination. A well nourished girl with hoarse voice and slightly labored breathing. Skin dry and scaling slightly on the shins. Axillary and pubic hair scanty. Hair coarse. Heart not remarkable. Lungs slightly dull throughout. Expiration prolonged. Respiratory wheeze throughout and occasional sibilant râles. Abdomen held spastic. No masses or tenderness. Pelvic examination: Virginal introitus. No evidence of inflammation. Slight brawny edema of the ankles. Ankle-jerks not obtained. Chvostek's and Trousseau's signs positive. Fundi not seen.

Laboratory data. Urine cloudy at two of four examinations, specific gravity 1.008 to 1.032, 1-5 leucocytes per high power field in all specimens of sediment, 2-4 red blood cells in one. Blood: 7,900-11,050 leucocytes, 68 per cent. polynuclears, hemoglobin 65 per cent., reds 5,656,000, with marked achromia, no poikilocytosis, rare microcytes. Wassermann negative. Non-protein nitrogen, March 22, 36 mgm. At entrance the basal metabolism averaged -18%, the blood calcium 4.3 mgm. per 100 c.c. The phosphate was usually about 5.6 mgm. per 100 c.c. She was then given parathyroid extract, and the blood calcium rose to 6 mgm., the blood phosphate fell to 4.2 mgm.; the basal metabolism remained unchanged. On March 9 thyroid was given for eight days. The metabolism rose to +20, the blood calcium rose to 11 mgm., and the phosphate remained at 4.4 mgm.

X-rays. Bones showed no evidence of decrease in lime salts. Plate of the chest also negative.

Consultants. Laryngologist. "Right vocal cord not paralyzed, but movement impaired." Neurologist. (Electrical reactions January 31.) "Reacts to less than one milliamperes cathodal current." Second neurologist, March 4. "Interosseous muscle left hand cathodal current greater than anodal current. Cathodal current 2½ milliamperes. Cathodal opening and anodal opening not obtained with very strong currents."

During two months the temperature was 96°

to 99.8°, the pulse 68 to 132, the respiration 17 to 33.

### DISCUSSION

BY JOSEPH C. AUB, M.D.

#### NOTES ON THE HISTORY

A note about the skin condition says that the diagnosis "eczema" is written in. Dr. White considered urticaria and scabies, ruled out the first, thought scabies extremely unlikely, but made no diagnosis.

On this first admission this was a girl who evidently had an exophthalmic goiter of about six weeks' duration.

#### NOTES ON THE FIRST PHYSICAL EXAMINATION

The exophthalmos must have been very mild, but is probably the same disease, an acute hyperthyroidism in which exophthalmos had not yet been developed.

She had a basal metabolism which indicated a mild hyperthyroidism, which was maintained throughout her stay in the hospital. The increased metabolic rate was evidently not due to excitement, because it remained elevated upon repeated tests.

This was in 1917, when patients with exophthalmic goiter were not operated upon as often as they are at present. At that time they were being treated by X-ray rather than surgically. Is there anything in the record about X-ray treatment? If she was in the hospital for a month at this time she ought to have had X-ray treatments for her thyroid.

MISS PAINTER: There is no mention of it in this record or in the records of the X-ray Therapy Clinic.

DR. AUB: She left the hospital, and the only diagnosis I can make at this time is an acute mild exophthalmic goiter, with also some skin lesion which had nothing to do with thyroidism, unless it was due to hyperhidrosis.

Evidently the treatment was not satisfactory, because within a week after discharge she was in the hands of a surgeon and was operated upon at another hospital. She had two operations upon the thyroid, the first of which was said to be a complete thyroidectomy.

Two years later cataracts appeared. We are beginning to realize that cataracts may develop in parathyroid deficiencies, or where low blood calcium is present.

#### DIFFERENTIAL DIAGNOSIS

At the time of her second entry her condition suggested asthma.

From her history and physical examination we therefore have to consider, I think, three possibilities: (1) An asthma which has developed since her operation. (2) Myxedema. (3) Parathyroid tetany.

She was sent in and had been treated for the last seven years for asthma, but her history also suggests the other possibilities. The laboratory data will help materially to make the diagnosis. In the blood the leucocytes are normal, the red count normal, though the reds show some achromia. The non-protein nitrogen is normal.

The basal metabolism of -18 to -20 was maintained throughout her stay until she had thyroid, and apparently the giving of thyroid played no part in her well being. She felt just as well before as after it. In a girl who had previously had exophthalmic goiter a basal metabolism of -20 definitely indicates a thyroid deficiency. Yet her symptoms and signs were not characteristic of myxedema, and the fact that thyroid feeding did not change her condition indicates that it was not an important factor.

The blood calcium of 4.3 mgm. is distinctly low and this definitely indicates a parathyroid deficiency of considerable degree. The normal value is about 10 mgm. per 100 c.c. The diagnosis of parathyroid tetany is also established by the positive findings of marked muscle irritability—the Chvostek's and Trousseau's signs and the marked irritability to the cathodal-closing current. A muscle response elicited by less than 1 milliamperes strongly suggests tetany.

In her acute attacks the diagnosis came down to the differential between asthma and tetany. The case is interesting in regard to the therapeutic use now recommended occasionally for calcium,—the giving of calcium to asthmatics. Here is a girl who has been treated as an asthmatic for seven years, whose asthma was due apparently to a parathyroid deficiency, because her blood calcium established without doubt, I think, that she has a parathyroid deficiency. The extraordinary thing is that a patient should have maintained this condition for seven years. Most parathyroids start with a storm, are unable to get over it and die, or get progressively better and recover. But here is a patient who for seven years had severe attacks of parathyroid tetany, the attacks at the end being just as bad as at the beginning, or worse. After she had been in the hospital a day or two she had an attack which I happened to see, which was the most striking attack of parathyroid tetany I have ever seen, in which a marked Chvostek was seen, a marked contracture of all her muscles in the typical tetany posture, including those of the legs and torso as well as of the arms, and with a difficulty in breathing which was so intense that her face became very gray, so marked that we all thought she might very well die. And this all came on seven years after the removal of her parathyroids.

A PHYSICIAN: Was there any pain in the muscles with those attacks?

DR. AUB: She had intense pain and complained of that afterwards; she complained also of the difficulty of moving and stiffness of her muscles. She did not lose consciousness.

The giving of oxygen, and of 10 c.c. of a 10 per cent. solution of calcium chloride intravenously made the attack stop within a few minutes, and she was relaxed and quite comfortable immediately afterwards.

DR. JAMES H. MEANS: Did you try giving the calcium chloride alone, without any oxygen?

DR. W. A. BAUER: In one other attack we did. It was not a severe attack.

DR. MEANS: Did it clear it right up?

DR. BAUER: Yes.

DR. AUB: She was then put on Collip's parathyroid. She continued to have little attacks of asthmatic breathing until her blood calcium rose to seven milligrams per 100 c.c. of blood. This has been accomplished by fifteen units of parathyroid extract daily. As her blood calcium rose to normal the mild characteristics of myxedema disappeared; this was accomplished without any thyroid medication whatsoever and without change in her basal metabolic rate. She of course felt like a different person, felt well, whereas before she had been a complete invalid. After her blood calcium had reached the normal level she was then given thyroid, and although the basal metabolism was raised to above normal it had no effect on the way she felt. In other words her symptoms apparently had been due entirely to a parathyroid deficiency and not to a thyroid deficiency, although she has a mild thyroid deficiency as well.

DR. HENRY R. VIETS: Did her hoarseness change at all?

DR. AUB: She is still somewhat hoarse, but her voice is improved. She had no paralysis, just weakness of her vocal cords.

A PHYSICIAN: What treatment has she had since leaving the hospital the first time?

DR. AUB: She has been treated only as an asthmatic. Asthma is a family weakness and she has been treated as her brother, but without effect. But she had been a complete invalid, unable to do anything because of this continual difficulty with breathing.

A PHYSICIAN: Is there any value in calcium by the mouth?

DR. AUB: I think calcium by the mouth would have helped her, but she had such a severe parathyroid deficiency that I doubt if we could have raised the blood calcium above the critical level by this method alone. Calcium medication alone will largely relieve the mild parathyroid deficiencies which we see clinically, but it is not a very efficient method.

A PHYSICIAN: Do you expect her to relapse?

DR. AUB: I expect her to remain normal as long as she can get parathyroid hormone. It is expensive. She is now taking about forty cents' worth a day, but I think this may be reduced later.

DR. MEANS: Is there any possibility of giving it less frequently?

DR. AUB: Probably she could get along with less than she is receiving now. She has a blood calcium of over eleven milligrams now and could easily get along with one of eight milligrams.

DR. MEANS: She is no worse off than many diabetics, then.

DR. AUB: No.

DR. VIETS: Do you think it will make any difference in her sense of wellbeing whether her basal metabolism is —18 or normal?

DR. AUB: We have not been able to get any statement from her that thyroid has improved her at all.

DR. VIETS: Is she gaining weight?

DR. AUB: She has not gained much. The parathyroid extract had no effect whatever on her metabolic rate. It did however change the symptom which we have often considered as due to thyroid deficiency, coarse skin, which was dry. Her signs of myxedema were not marked, but her skin was sufficiently coarse so that I predicted that the basal metabolism would be —20%.

DR. MEANS: There are a lot of people with a metabolism of —20, as low as that, who do not show signs of myxedema.

A PHYSICIAN: Is there any chance of this patient's getting along without parathyroid hormone?

DR. AUB: When she came in she had never had it and had been an invalid. Her attacks were apparently getting worse. Anyone who had seen one of those attacks would not want her to have another, for they are far too severe to risk. It is an extraordinary picture; a girl apparently perfectly well except for mild wheezing, then suddenly at death's door in a convulsion and unable to breathe, then getting over it and being well again. These attacks develop without apparently any change in the blood calcium or without other known precipitating cause.

DR. MEANS: Do you recollect what her appetite was like before the thyroid?

DR. AUB: It has never been great and is not now. Her failure to gain in weight, I think, is largely due to her poor appetite. She has gained only about four pounds in two months.

#### DIAGNOSIS

Chronic parathyroid insufficiency.  
Mild thyroid insufficiency.

## NOTE ON CASES 12183 AND 12184

The two following cases were presented by Dr. Edward B. Benedict, the senior house officer in the West Surgical Service, at the monthly Clinical Staff Meeting held at the Massachusetts General Hospital March 11, 1926. The cases were presented chiefly to illustrate some of the newer methods of treatment of severe burns.

## CASE 12183

## TANNIC ACID IN THE TREATMENT OF SEVERE BURNS

BY EDWARD B. BENEDICT, M.D.

## SURGICAL DEPARTMENT

This patient is an Italian thirty years old who works as a crane man in the Readville Car Shops of the New York, New Haven and Hartford Railroad. On the third day of last December he was working in his overhead crane in the shops, when some oil in the crane caught fire and burned him very severely. He was given first aid and then brought at once to the Emergency Ward.

On admission he showed first, second and third degree burns of the face, head, neck, and both arms and hands. When I first saw him I thought he was a colored man, as all the exposed parts of his body were so badly burned. He was treated at once with 2½ per cent. tannic acid solution to all the burned areas except the face, where 5 per cent. tannic acid ointment was applied. His hair was all charred, and was rubbed and clipped off. He was put to bed with a cradle over the entire bed, and the temperature of the enclosure was kept at about 95° Fahrenheit by means of electric light bulbs. Fluids were maintained by glucose, subpectorals and glucose by rectum. The burned areas were kept wet constantly with 2½ per cent. tannic acid solution applied to the dressings by Dakin's tubes and syringes.

The temperature of the patient was 101°, the pulse 95, the leucocyte count 30,000, the red count 6,900,000. The urine was essentially negative.

The toxic reaction was moderately severe, although the temperature never went above 102°. There was some vomiting for three days. The non-protein nitrogen was 75 mgm.

The tannic acid was left on for thirty-six hours, at the end of which time there had formed an eschar over the burned areas, although the tanning in this case was somewhat less marked than is frequently seen. The patient's body was then left entirely exposed to dry heat for four days. The tent arrangement for warm air treatment was then removed and the crusts gradually separated. Saline dressings were then applied, and subsequently Da-

kin's, to clean up the granulating areas. In one place on the left hand the burn extended down practically to the extensor tendons of the second and third fingers.

Soon after the discontinuance of dry heat and the beginning of wet dressings it became evident that some sort of splint would be necessary in order to obtain a suitable cock-up position for the hands. Accordingly an aluminum splint with dental compound was used.

The patient continued in this way for about a month, having at various times saline, Dakin's and ambrine dressings. At the end of seven weeks in the hospital the burned areas of the face and arms had healed spontaneously, and the granulating areas of the neck and on the backs of the hands were clean and ready to graft. A Tiersch graft was therefore performed. All the grafts took remarkably well. Ten days after the graft the patient started to limber up the fingers by grasping a rubber ball. He could do this with great difficulty at first. Massage was started at about the same time, and improvement was quite rapid. Three weeks after the skin graft he was up and about the ward, and was discharged to the Out-Patient Department to continue daily baking and massage. His stay in the hospital was two months and a half. He has been treated by massage at home for the past three weeks.

The tannic acid method of treating burns was described by E. C. Davidson of the Ford Hospital, Detroit, in *Surgery, Gynecology and Obstetrics*, August, 1925. We have used this method in a number of cases, and in several we feel that it has been a life saving measure. The advantages of this form of treatment as described by Dr. Davidson are:

- (1) It lessens toxemia. Tannic acid precipitates the toxins in the burned tissue and thus prevents their absorption.
- (2) It is analgesic.
- (3) It prevents the loss of body fluids by its astringent effect.
- (4) Secondary infection is less likely.
- (5) Scar tissue formation is less marked.

## CASE 12184

## A PROBLEM IN THE SURGERY OF TRAUMATIC HANDS

BY EDWARD B. BENEDICT, M.D.

## SURGICAL DEPARTMENT

This patient is a single woman fifty-two years old who works in the laundry at the Massachusetts Eye and Ear Infirmary.

On the twenty-fourth of last October while she was running a mangle in the laundry her left hand became caught, and before it could be released was severely burned with live steam. She was treated in the Emergency Ward at

once and as an Out-Patient case for two weeks, receiving daily dressings. At the end of that time there was very little improvement, and it was thought best to send her into the wards for treatment.

On admission the whole back of the hand and the dorsum of the fingers were seen to be involved in the burn. Part of the dorsum of the hand was covered by a black eschar. The fingers were very stiff, and the extensor tendons seemed to be involved. The hand had a bad odor and was treated with myrrh, and also Dakin's dressings to clean it up. Progress was very slow. The tough eschar separated off in about two weeks, and with the eschar came the extensor tendons, leaving the metacarpals and proximal phalanges entirely bare, with joints exposed. On two occasions there was moderate hemorrhage from the wound. Amputation was seriously considered by some of the visiting staff.

However, amputation was decided against. A splint of dental compound was obtained in order to maintain the proper position of the hand and fingers; and the hand gradually assumed the correct position over the mould.

The wound gradually cleaned up, and healthy granulations appeared. Epithelium began growing in somewhat from the sides. It was expected that with the bones exposed sequestration would take place, but this did not occur. The bones were drilled with small holes for the purpose of hastening sequestration. Granulations gradually came up through the drill holes, but sequestration has not occurred yet, though the bones were drilled over two months ago. During the past month Alpine lamp treatment in small doses has been tried, probably with some benefit. For the past two weeks poultices have been substituted for the myrrh dressings. These poultices are something quite new in this hospital, being made of potassium and aluminum nitrate with oatmeal as described by Thorek in the *Illinois Medical Journal* for August 1925.

In recommending these poultices Thorek says:

"This compound is not an antiseptic. On the other hand it is a definite accelerator of bacterial growth, tending by rapid propagation to lower the virulence and viability of the infecting organism, thereby assisting the normal resisting powers of the body to recuperate, and thoroughly eliminate the increased exudation and transudation.

"It does not affect and devitalize normal tissue. . . .

"Pain is very quickly relieved due to prompt autolysis, liquefaction and discharge. . . .

"It is not toxic. . . ."

NOTE APRIL 14

Sequestration is now definitely beginning, and has already occurred in the fifth meta-

carpal, so we may now expect epithelium eventually to cover the entire area. As regards function the prognosis is certainly poor, but from the patient's viewpoint at least the hand has been worth saving.

# EXTRACT FROM CAMPAIGN NOTES OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

The Annual Meeting of the American Society for the Control of Cancer took place at the office of the Society on Saturday afternoon, March 6, 1926. It was preceded by meetings of the Executive Committee and the Board of Directors. It was followed by a dinner at the Hotel Roosevelt in New York, where the officers, members of the Advisory Council, and regional and state chairmen of the Society met and discussed the past and future work of our organization.

The officers who have served the Society for the past year were reelected, with the exception of Dr. Reynolds, Chairman of the Advisory Council, who resigned. Dr. Robert B. Greenough of Boston was elected in Dr. Reynolds' place.

The report of the Managing Director of the Society covered the following facts: The work of the past year had been active and extensive. There had been a number of very successful campaigns in various parts of the country, notably at Baltimore and Detroit. These compared favorably with any periods of intensive educational activity which the Society had ever carried on.

During the last year the Society had published a report of its organization, objects, and methods, expenses, and results of its work covering the twelve years since the organization was formed. This report was in the form of a small bound volume, and was available for distribution to libraries and individuals who might be interested to see what the Society had been doing.

The medical handbook had been distributed to all the physicians of Connecticut, Maine, Massachusetts and Vermont. In this distribution the national Society was ready to cooperate with the state medical societies and state boards of health and with state chairmen.

An extensive study of the problem of cancer control as it was understood in Europe had been carried on by the Managing Director during the past year. He had spent three months in this undertaking and had traveled approximately 4,000 miles in Europe, visiting fifteen cities and interviewing over fifty eminent students of cancer in the fields of surgery, radiology and research. He had seen many of the foremost clinics and hospitals. He had made preliminary arrangements for the visit of distinguished cancer students to America in September, 1926.

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### A PROTEST AGAINST THE APPOINTMENT OF DR. JOSEPH GARDNER HOPKINS TO THE POSITION OF HEAD OF THE DEPARTMENT OF DERMATOLOGY OF THE VANDERBILT CLINIC AND THE COLLEGE OF PHYSICIANS AND SURGEONS OF COLUMBIA UNIVERSITY

TWENTY-SIX members of the staff of the Department specified in the heading have resigned because the Faculty of Medicine of the College of Physicians and Surgeons of Columbia University did not select Dr. George M. MacKee to succeed Professor John A. Fordyce, who had been head of the Department and who died a year ago.

Dr. Hopkins who has been given the appointment had been assistant to Dr. MacKee and has a deserved reputation as a bacteriologist and roentgenologist and has devoted much time to research work. The staff however felt, according to newspaper reports, that Dr. MacKee was entitled to the position because of his extensive clinical experience, and further that the appointment of his assistant to the major position was an injustice. Both the faculty and the retiring members of the staff have explained their positions. The staff especially affirming belief in the importance of clinical experience

as a foundation for teaching and treating the sick.

The illustration purporting to represent the feeling of the staff as reported in the *New York Times* is as follows:

"It is something like this—if you wanted to learn painting you would prefer to become the pupil of an artist rather than of the world's greatest authority on pigments and chemicals.

"There was no concerted action in our resignations. We held no meetings on the subject. The feeling was deep that the department was being injured, that personal injustice was being done, that the wrong theory was being followed. Many of those who resigned did so most regretfully. Dr. Hopkins is a man of undoubted ability in his own field, but of all the men in the department he is undoubtedly the man of least practical experience."

Although Dr. MacKee's resignation was in the hands of the faculty, the title of Professor was conferred upon him, but even this made him subordinate to Dr. Hopkins.

The names of the resigning members of the faculty are as follows:

Professors George M. MacKee, Fred Wise and Isadore Rosen, and Doctors J. J. Eller, E. C. Jagle, Max Scheer, E. W. Abramowitz, David Bloom, Harry Saunders, D. Ballin, D. Satenstein, Charles Lerner, S. Strumwasser, M. Standish, E. D. Newman, B. Berkowitz, H. Norton, Frederick Amshel, F. X. Wilhelm, Lotta Myers, J. P. Thornley, S. Littenberg, John Harris, Van Alstyne Cornell, Louis Tulipan and John Remer.

The records of the two men most concerned are given in the *New York Times* as follows:

Dr. Hopkins was born in Brooklyn on June 30, 1882, receiving his A.B. degree in Columbia in 1902 and his medical degree from Johns Hopkins in 1907. He was for two years the resident pathologist at St. Luke's Hospital, and for three years after that bacteriologist and assistant attending physician for several years at the same place. He then joined Dr. Hans Zinsser's staff in the Columbia Department of Bacteriology, being made assistant professor in 1915.

For a time during the war he was bacteriologist with the Red Cross Commission in Serbia. He served during the war in the Medical Corps, being in charge of Base Laboratory 3 in Winchester, England, in 1918 and 1919.

On his return he became associated with Columbia Dermatology Department, both at Presbyterian Hospital and Vanderbilt Clinic, in which he has since continued. For the last six years he has also been affiliated as associate in roentgenology with the Crocker Laboratory.

### DR. MACKEE GOT DEGREE IN 1899

Dr. MacKee was born in Jersey City, September 19, 1878. He received the degree of M.D. from New York University and Bellevue Hospital Medical College in 1899.

After an extensive post-graduate training in New York and New Jersey, he entered the service of Dr. John A. Fordyce in the Bellevue Medical College as assistant in 1903, being later promoted to attending dermatologist and syphilologist and instructor. In 1911 he was transferred to the Columbia Medical School as chief of clinic and instructor, subsequently becoming associate professor of dermatology and syphilology.

From 1905 to 1907 he was Professor of Roentgenology in the Angle School of Orthodontia. He has

been roentgenologist at numerous hospitals, including St. Vincent's. He is now consulting dermatologist and syphilologist at St. Vincent's, Sea View Hospital, New York Nose, Throat and Lung Hospitals and many other smaller hospitals.

Dr. MacKee is a Fellow of the New York Academy of Medicine, of numerous societies, including the American Medical Association, American Dermatological Association, Congress Physicians and Surgeons, American Roentgen Society, American Radiological Society, American College of Roentgenologists and New York Dermatological Society.

He is an honorary member of the Dermatological Society, Brooklyn Dermatological Society, London Dermatological Society, French Dermatological Society, German Dermatological Society and Argentine Dermatological Society.

An unsigned statement, that was sent out purporting to describe the position of those who resigned, read as follows:

"With the exception of two or three physicians, the entire staff of the Department of Dermatology and Syphilis of the Vanderbilt Clinic and the College of Physicians and Surgeons of Columbia University, over thirty physicians, have resigned from the institution.

"This action was taken as a protest against the policy of the university authorities. This policy consists of placing physicians whose training has been obtained in laboratories—with test tubes and guinea pigs instead of human beings with diseases—at the absolute head of large clinical departments. It is the opinion that this policy is ruthless and arrogant in that it disregards obligations and consequences. The policy has been tried in other departments of the Medical College, as well as in other institutions, and has been found wanting.

"It is the consensus of opinion among the best minds in American medical circles that the policy is opposed to the best interests of medical education and that it is especially detrimental in the specialty embracing dermatology and syphilology, in which clinical training and clinical teaching are paramount. Knowledge of laboratory technic is a relatively unimportant feature in the teaching of these subjects, and in the treatment of patients afflicted with skin diseases and syphilis. Doctors in this field must be clinicians first and last, not laboratory experts."

The report of these changes and the opinions submitted brings before the public in a very definite manner the differences of opinion relating to medical education and practice which have created considerable discussion in recent years in medical circles.

It is probably impossible to keep these diverse opinions within the medical profession and apparently equally impossible for members of hospital staffs and medical faculties from exhibiting bad behavior.

An appointment to any position does not carry assurance of permanency and the sporting instinct should, we believe, prevent open criticism of the actions of authorities, unless there is evidence of stultifying prejudice or ignorance.

It must be conceded that although the great majority of the medical profession is not in sympathy with the practices in vogue in some medical colleges, the protests should be made in medical literature rather than in lay pub-

lications, and we are convinced that the arts of diplomacy should be exhausted before wholesale secession.

### WHAT IS THE MATTER WITH THE HERALD?

IN its issues of March 11 and March 25 the JOURNAL called attention to the flagrantly deceptive type of patent medicine advertisements still accepted by certain newspapers; in these instances the *Boston Herald*. It is needless to repeat any specific instances of these objectionable insertions, several of which were mentioned in each editorial. These breaches of moral ethics seem all the more flagrant in view of the *Herald's* avowed policy to accept only honest advertisements as expressed frequently in its pages under the caption "Truth in Advertising."

The JOURNAL does not lay claim to any wide sphere of influence among the general public or with the lay press. It does claim to have greater powers of discrimination in regard to medical subjects than the business manager of the average newspaper and it does claim that its expressed opinions are always honest in so far as it is possible for it to see the truth. Knowing that the editorials referred to were brought to the attention of the editors of the *Boston Herald*, it is disappointing, after more than a month has elapsed, to realize that the editors of the *Herald* have not seen fit to recognize the justice of the JOURNAL's criticisms.

It seems obvious that the editors of the *Herald* either have failed to recognize the justice of the JOURNAL's criticisms, in which case no attempt at an investigation of their validity has apparently been made, or that they are willing to be parties to a deliberate and inexcusable exploitation of the public welfare in the face of their avowed desire to accept only ethical and honest advertising material.

In distinct contrast is the actual—not theoretical—policy of the *New York Times* which refuses to accept fraudulent or doubtful advertisements, advertisements that make false, unwarranted or exaggerated claims, or objectionable medical advertising and offers of free medical treatment; advertising that makes remedial, relief or curative claims, either directly or by inference, not justified by the facts or common experience. The Advertising Department of the *New York Times*, moreover, consults the *New York Times* Medical Department and frequently the Academy of Medicine and County Medical Society before accepting announcements of any preparations having medicinal properties, and the preparations accepted do not number more than four or five.

It is disappointing to realize that a reputable Boston newspaper cannot meet on the same ground a reputable New York paper as regards

the willingness of each to give a square deal to its readers. It is doubly disappointing to realize that the local shortcoming can no longer be due to ignorance. What is the matter with the *Herald*?

### SMALLPOX IN FLORIDA

THE expected has happened. With the influx of large numbers of people Florida has had to meet unusual public health problems. Smallpox invaded the state and several foci of infection have had to be dealt with. Because of business interests the lay press was loath to publish the facts and people were indifferent and neglected vaccination.

After coercion by the State Board of Health the papers made tardy mention of the existence of the disease. Fortunately the *Saturday Evening Post* is very generally read and the excellent article relating to smallpox and vaccination which was published in that magazine undoubtedly had influence with many people.

The State Health Officer of Florida has appealed to physicians to preach as well as to perform vaccination. He cited Massachusetts as an example of the protective power of vaccination. We wonder whether the experience of the past winter with respect to smallpox will lead Florida to adopt the recommendations of Dr. S. B. Woodward and put Florida ahead of Massachusetts.

Our legislature was either too timid or too ignorant to go the full distance in combating smallpox. Although we are proud of the record of the old Bay State we hope to see her way in advance of all the States in the Union in preventing the deaths and suffering due to this loathsome disease.

We have to blame Florida for imposing several cases of smallpox on this Commonwealth.

### THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

McKEEN, SYLVESTER F., M.D. Harvard Medical School 1896; Member of Associate Staff, New England Deaconess Hospital. His address is 9 Dean Rd., Brookline, Mass. His subject is "Coronary Occlusion in General Practice," page 809.

McCLURE, CHARLES W., M.D. Ohio State University College of Medicine 1910; Chief of the Gastrointestinal Research, Evans Memorial, Boston. Associated with him is

HUNTSINGER, MILDRED E., B.Sc.; Chemist of Department of Biochemistry, Evans Memorial.

Their subject is "Studies in Liver Function. VI. Quantitative methods for determining the cholesterol and the alcohol-soluble and insoluble bile pigments of the duodenal contents," page 812. Dr. McClure's address is 483 Beacon St., Boston, Mass.

EMERSON, KENDALL, A.B.; M.D. Harvard Medical School 1901; F.A.C.S. President, Massachusetts Tuberculosis League. His paper is "The Annual Address before the Massachusetts Tuberculosis League," page 814. His address is 21 High St., Worcester, Mass.

WILLIAMS, LINSLEY R., M.D. Columbia University Medical School 1899; Managing Director of the National Tuberculosis Association. His subject is "The Broadening of the Tuberculosis Program," page 816. His address is State Department of Health, Albany, N. Y.

OTIS, EDWARD O., M.D. Harvard Medical School 1877; Sc.D. Tufts College; Professor of Pulmonary Diseases and Climatology, Tufts College Medical School. His subject is "The Importance of Measures to Combat the Present High Rate of Mortality from Tuberculosis Among the Age Group Between Fifteen and Forty-four," page 821. His address is 381 Beacon St., Boston.

BIGELOW, GEORGE H., A.B.; M.D. Harvard Medical School 1916; Doctor of Public Health 1921; Commissioner of Public Health for Massachusetts. His subject is "Possible Fields for Expansion of the Activities of Tuberculosis Associations," page 823. His address is Department of Health, State House, Boston.

WOODY, McIVER, M.D. Harvard Medical School 1912; Plant Physician, Gilbert and Barker Manufacturing Co., Springfield, Mass. His subject is "Tuberculosis and Industry," page 825. His address is as above.

LANE, WALTER, A., A.B.; M.D. Harvard Medical School 1899; Visiting Physician, Milton, Mass. Hospital; School Physician, Milton, Mass. His subject is "A Plan for the Control of Contagious Diseases," page 827. His address is 173 School St., Milton.

JONES, T. DUCKETT, A.B. Virginia Military Institute 1919; M.D. University of Virginia Medical School 1923; Resident in Cardiology, Massachusetts General Hospital, and

SPRAGUE, HOWARD B.; A.B., M.D. Harvard Medical School 1922; Assistant in Medicine, Courses for Graduates, Harvard Medical School; Graduate Assistant in Medicine, Massachusetts General Hospital; Visiting Physician, House of the Good Samaritan. Their report of "Progress in Cardiovascular Disease" is continued on page 828 of this issue.

## The Massachusetts Medical Society

### SECTION OF OBSTETRICS AND GYNECOLOGY

CHARLES E. MONGAN, M. D., *Chairman*  
FREDERICK C. IRVING, M. D., *Secretary*  
THOS. R. GOETHALS, M. D., *Clerk*

Boston Lying-In Hospital, Boston, Mass.

(Communications and questions addressed to the Clerk will be gladly received and cheerfully answered.)

MULTITUDINOUS schemes and methods have been advanced from time to time from various clinics and teaching centers to expedite and render easy the process of childbearing. We read of twilight sleep, of induction of labor to suit the convenience of the attending physician, and of the shortening of labor by means of "prophylactic forceps" or version. What do these methods signify for the general practitioner in the conduct of his obstetric work? Can they render the grind of his practice less constant and the hours of his attendance on obstetric patients more regular?

In regard to the time element let us consider that we do not yet know what factor or combination of factors bring about the onset of labor, and that we cannot recognize their presence. Therefore the onset of labor is uncontrolled. The duration of labor is determined by (1) The effective power of the uterus to expel its contents, (2) The bulk of the contents, and (3) The resistance to be overcome before the contents are expelled. Consequently the duration of labor is also dependent upon unmeasurable factors, and the exact time of birth of a given baby cannot be predicted even after labor has begun.

So far as twilight sleep and other methods of analgesia in labor are concerned it may be said that they are practicable only under hospital or equivalent conditions. They require expert handling and constant personal attention either of the physician or of a well trained assistant. We are still far from the time when it will be possible for the doctor to administer a hypodermic or other medication to a patient in labor at 9 A. M. and return at 1 P. M. without further ado to catch the baby.

Regarding methods of shortening labor much has been written. Routine delivery by forceps or by version and extraction has been advocated to shorten labor, to minimize the patient's suffering, and to spare the baby the dangers of the second stage of labor. The Section believes that while these methods may show good results in the hands of their sponsors they are inadvisable for the general practitioner, both because they require special skill and training on the part of the operator and in addition trained assist-

ance if the patient is to be benefited thereby.

It is said that ninety five percent of all pregnant women will pass successfully through pregnancy and labor if nature is only allowed to take its course. With this statement the Section is in accord, but it does not condone the adoption of an attitude which implies that if ninety five babies out of a hundred arrive normally it is unnecessary to bother about the other five. Intelligent and thorough prenatal care will in many cases prevent a patient from changing from the ninety five to the five percent group: while reasonable supervision in labor will not infrequently disclose abnormalities which presage disaster unless corrected.

Various issues of the Obstetric Column have made clear the importance of prenatal care and prenatal examinations. Careful measurement of the pelvis and comparison of this with the size of the baby will divide cases before labor into three groups: (1) The group in which labor can reasonably be expected to result in the delivery of a living child through the pelvis; (2) The group in which this question cannot be decided until the patient has been allowed to prove what she can accomplish toward a pelvic delivery by means of a so-called test of labor; and (3) The group in which such conditions as pelvic contraction or deformity, overdevelopment of the baby, morbid conditions in the pelvis or previous operations on the pelvic organs, render a pelvic delivery either impossible or almost certain to result in the birth of a dead or moribund child.

The majority of all obstetric cases come automatically under the first group; pregnancy will progress to full term and labor will ensue spontaneously. The majority of these patients will, if given time, deliver themselves normally. The physician should invariably respond to the summons sent him by the patient or her family when labor has started, and should satisfy himself that all is well with mother and baby. This done his continued presence at the patient's bedside is optional, and dependent upon the imminence of delivery. For a judgment on this point no rules can, of course, be laid down, but in case of doubt it is the duty of the physician to be in personal attendance until the progress of the case can be gauged by observation over a period of one or two hours. If the patient is in hospital the physician has more leeway, and it is reasonable for him to absent himself for longer periods of time than if the patient is at home and with untrained attendants.

Throughout labor the case should be left to nature so far as is possible. Examinations to determine the degree of cervical dilatation should be limited to the minimum required for intelligent appreciation of progress, and are preferably made by rectal touch. At the beginning of labor the patient's rectum and lower

bowel should be emptied by means of an ordinary suds enema, a procedure which will not infrequently stimulate the uterus to more efficient contractions. If, however, the case is not seen until in the second stage, or if a rapid or precipitate multiparous labor is feared the enema is apt to be expelled simultaneously with the baby, and is therefore better withheld.

Reassurance to the patient and her family from time to time throughout labor that all is proceeding normally is of the greatest importance, for the calm and assured woman will go through labor much more smoothly than a nervous and excited one. Requests on the part of the patient or her family to terminate labor prematurely should never be entertained by the physician when he is satisfied that things are progressing normally. Many a baby is lost, and many a patient severely lacerated as a result of an ill advised premature delivery by forceps or version at the insistence of a panicky patient or an excitable husband; whereas if the situation had been controlled for a relatively short time longer a normal delivery would have been assured. Similarly the unwarranted use of pituitrin or the premature use of instruments by the physician who is anxious to save his own time is a frequent cause of disaster.

Watchful waiting is the best policy for the conduct of the normal case in labor. In the long run the use of such schemes for delivery as the routine "prophylactic forceps" or routine version and extraction cannot, under conditions of general practice, compete with normal delivery in safety both for mother and baby.

### LEGISLATIVE NOTE

HOUSE Bill 145 Relating to Subsidies for Tuberculosis Cases has been signed by the Governor.

The bill reads as follows:

AN ACT RELATIVE TO SUBSIDIES TO CITIES AND TOWNS FOR PULMONARY TUBERCULOSIS CASES

*Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:*

Section seventy-six of chapter one hundred and eleven of the General Laws is hereby amended by inserting after the word "superintendent" in the twentieth line the words:—or medical director,—by striking out, in the twentieth and twenty-first lines, the words "the district health officer of the district where the hospital is situated" and inserting in place thereof the words:—a member of the department designated by the commissioner,—and by inserting after the word "of" the second time it occurs in the twenty-first line the word:—pulmonary,—so as to read as follows:—Section 76. Every town placing its patients suffering from tuberculosis in a county, municipal or incorporated tuberculosis hospital in the commonwealth, or in a building or ward set apart for such patients by a county, municipal or incorporated hospital therein, shall be entitled to receive from the commonwealth a subsidy of five dollars a week for each patient who has a legal settlement therein, pro-

vided that such patient is unable to pay for his support, and that his kindred bound by law to maintain him are unable to pay for the same; but a town shall not become entitled to this subsidy unless, upon examination authorized by the department, the sputum of such patient be found to contain bacilli of tuberculosis, nor unless the hospital building or ward be approved by it, and it shall not give such approval unless it has by authority of law, or by permission of the hospital, full authority to inspect the same at all times. The department may at any time withdraw its approval. In the case of hospitals having a bed capacity which, in the opinion of the department, is in excess of the number of beds needed for the localities which these institutions serve for patients exhibiting tubercle bacilli in their sputum, the subsidy above provided shall be allowed for such patients not exhibiting tubercle bacilli in their sputum as, in the joint opinion of the superintendent or medical director of the institution and of a member of the department designated by the commissioner, are bona fide cases of pulmonary tuberculosis and have been in the institution more than thirty days.

### MISCELLANY

#### FIRST AMERICAN HEALTH CONGRESS, ATLANTIC CITY, MAY 17-22

WORD has just been received by the National Health Council, 370 Seventh Avenue, from Sir Arthur Newsholme, K.C.B., M.D., F.R.C.P., accepting the Council's invitation to address the American Health Congress to be held at Atlantic City, May 17-22. Familiar with public health conditions in his own country from his forty years of experience and also well versed in American methods, Sir Arthur Newsholme's message will be welcomed by the thousands of public health workers that will be gathered together.

Dr. George E. Vincent, President of the Rockefeller Foundation will speak on the international phases of health work.

Professor C. E. A. Winslow, President of the American Public Health Association, will speak at one of the general sessions of the congress, where the administrative side of state and city health work will be stressed.

"Is Public Health Improving the Race?" is the piquant title chosen by Dr. Ray Lyman Wilbur, President of Stanford University, for his address.

Many other speakers renowned for their work in the different branches of public health will complete this program making it a memorable step in the development of public health in America.

This Congress marks the five years of coöperation between the great voluntary national health organizations forming the National Health Council and for the first time in history will bring together those engaged in the many different phases of the work; prevention and cure of tuberculosis, control of cancer, care and cure of heart disease, immunization, nursing, child health, maternity care and education, health education, the prevention of blindness,

social hygiene, mental hygiene, Red Cross activities, and public health administration. The organizations to be represented are:

American Child Health Association; American Heart Association; American Public Health Association; American Red Cross; American Social Hygiene Association; American Society for the Control of Cancer; Conference of State and Provincial Health Authorities of North America; National Committee for Mental Hygiene; National Committee for the Prevention of Blindness; National Organization for Public Health Nursing; National Tuberculosis Association; United States Children's Bureau; United States Public Health Service; Women's Foundation for Health; the American Nurses Association, the National League of Nursing Education.

### A CHARLATANIC PRACTICE

WITH regular and increasing frequency physicians are circularized by various lecturers who, coming from "heaven knows where" and hiring de luxe quarters in the best of hotels, offer to deliver for the enlightenment of the benighted practitioner illuminating lectures on X-ray technique, electro-therapy, heliotherapy, mechano-therapy, spinal-therapy, bloodless surgery, etc., etc. Usually the first lecture is free. Then comes the "sucker" part in the form of an offer of "three additional lectures of this precious course for the modest fee of \$50 to \$150."

This charlatanic practice has led the Executive Committee of the New York Electrotherapeutic Society to pass a unanimous resolution to the following effect:

"Whereas, various commercial concerns and enterprises dealing in electrotherapeutic and allied apparatus are with increasing frequency holding public lectures in New York, which are in effect and in fact nothing more than lectures advertising their goods; and

"Whereas, audiences to these lectures are not limited to members of the medical profession; and

"Whereas, the lectures, themselves are not carefully selected or given, and

"Whereas, the audience must necessarily be misled,

"Be it Therefore Resolved by the Executive Committee of the New York Electrotherapeutic Society that the Department of Health should control such lectures by licenses after due and proper investigation, so that the public may be protected from the aforesaid abuses.

(Signed) "RICHARD KOVACS, M.D., Secretary."  
—Bulletin N. Y. City Department of Health.

### REAL DOCTORS ARE NOT IN "SCHOOLS"

A too common misapprehension as to the medical profession was expressed this week by

Samuel Untermyer in a letter to John Knight, Republican leader of the State Senate. As a reason for opposing the Webb-Loomis Medical Practice bill, Mr. Untermyer wrote: "The great body of physicians in this State is so divided, and there are so many schools of physicians at war with one another, that it is unjust to place the members of any one school in the power of this dominating faction or of any other faction."

But the medical profession, properly so called, is not divided into either schools or factions. Their only division is into general practitioners and specialists. The latter, however, have had the same preliminary training as the former, and between the two there is no war and nothing like a war. In theory always, and in practice usually, they work together in perfect harmony.

The only war is between the followers of the various cults and fads that form the lunatic fringe of medicine. There is where denunciations of rivals are to be heard, and naturally, for each group insists on vaunting and exploiting the efficacy of a single remedy for every ill, and each is obliged to declare all panaceas except its own to be worthless.

The real doctor does not believe in cure-alls. He does not ban suggestion or "physiotherapy" when his diagnosis indicates its value. Whether the Webb-Loomis bill does or does not put too much power in the hands of too few men is debatable, but its fault is not that of giving one "school" of real doctors too much authority over other "schools," also of real doctors.—*New York Times*, April 16, 1926.

### NEW HOSPITAL IN PITTSFIELD, MASS.

THE new St. Luke's Hospital in Pittsfield was formally opened April 18th although not quite ready for use. This hospital, under the management of the Sisters of Providence, will combine the work of the St. Luke's medical and maternity departments and the Boylan Surgical Hospital.

The new hospital situated on the Allen property on East St., is five stories with a complete hospital unit on each of the four upper floors. The entrance for patients, the admitting room, the ambulance entrance, an emergency surgery and very complete X-ray and physiotherapy departments are grouped at the front of the first floor. There is an unusually well equipped large kitchen and three dining rooms on this floor and at the rear there is a large auditorium.

There are three electric elevators, one of which extends to the roof where they will have two solaria. On the top floor there are two well arranged rooms for surgery. These are walled with dark marble, have an abundance of north light and the latest devices for artificial light and for regulating temperature of the air.

This department is well isolated by its location at the end of the main wing. On the third floor a similar suite of rooms for obstetrics will be thoroughly isolated from the near-by wards. Here and in the nursery are the most modern appliances for assisting the work. On the second floor there is a beautiful, although small chapel.

On each side of the north or main wing there are wide porches with easily accessible doors admitting the passage of a full sized hospital bed. All corridors are extra width and very high, allowing the best ventilation. There is a separate building for the heating and power plants with a large tunnel connecting the buildings.

The entire hospital is equipped with the best and most modern equipment and is very conveniently arranged. There are 75 private rooms, 8 wards of 4 or 5 beds each and 10 rooms for 2 beds each. The completed hospital will represent an investment of a little over a half million dollars.

#### MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY

The officers elected for the ensuing year are: President—George L. West, Newton Centre. Vice-President—Augustus W. Dudley, Cambridge.

Secretary—Stephen M. Biddle, Cambridge. Treasurer—Edward Mellus, Newton. Commissioner of Trials—Edwin P. Stickney, Arlington.

For Member of the Nominating Committee of the Massachusetts Medical Society—Edmund H. Stevens, Cambridge.

Alternate—Thomas M. Durrell, Somerville. Censors—Herbert E. Buffum, Somerville; Charles F. K. Bean, Medford; Conrad Bell, Waltham; Norman M. Hunter, Hudson; Fred R. Jouett, Cambridge.

Orator—Dwight O'Hara, Waltham.

Councillors: District No. 1, Cambridge—Edmund H. Stevens, James W. Sever, Willard A. Putnam, A. C. Potter, Hollis L. Seavey, John P. Nelligan, John H. Taylor.

District No. 2, Charlestown, Everett, Malden—Clarence H. Staples, Henry J. Keaney, Fritz Walter Gay, Ralph W. McAllester.

District No. 3, Medford, Somerville—Charles E. Mongan, Frederick G. Smith, Allen H. Blake, Walter T. Burke, H. E. Buffum.

District No. 4, Arlington, Belmont, Concord, Lexington, Waltham, Watertown—Charles B. Fuller, Harold R. Webb, William L. Barnes, Fred A. Higginbotham.

District No. 5, Brighton, Newton—Edward A. Andrews, Francis G. Curtis, Lewis H. Jack, Irving J. Fisher, Edward Mellus, Walter H. Crosby, Hartley W. Thayer.

District No. 6, Ashland, Framingham, Holliston, Hopkinton, Natick, Sherborn—James Glass, Dana F. Cummings.

District No. 7, Hudson, Lincoln, Marlborough, Maynard, Stow, Sudbury, Wayland, Weston—Fresenius Van Nuys.

Auditors—Arthur N. Makechnie, Cambridge; Alvah C. Cummings, Newton; Josephine D. Kable, Marlborough.

Committee—John A. McLean, Somerville; Michael F. Burke, Natick; Frank R. Stubbs, Newton; Charles F. Atwood, Arlington; Arthur M. Jackson, Everett; C. T. Warner, Marlborough; C. M. Hutchinson, Cambridge.

#### FOR SAFETY IN INDUSTRY

TEACHERS IN THE CONTINUATION SCHOOLS IN NEW YORK CITY TO BE INSTRUCTED IN THE PRINCIPLES OF SAFETY FIRST, BY THE NEW YORK STATE DEPARTMENT OF LABOR

INDUSTRIAL Commissioner James A. Hamilton of the New York State Department of Labor and Mr. Morris E. Stegel, Director of Evening and Continuation Schools have combined their energies in a campaign of education of the teachers in the continuation schools in the principles and practice of "accident prevention," especially as it refers to "accident prevention" in industry.

Not everyone is familiar with the object of the part time or continuation school. Under Chapter 531 of the New York Laws "The Board of Education in each city and school district of the State must establish Part Time or Continuation Schools, said schools to be part of the Public School System." "... All children under 16 and non-graduates of the elementary school under seventeen must attend for not less than 4 nor more than 8 hours a week. If minors are temporarily out of employment they must attend every day of the school week." This is understood to mean all children in gainful employment. "... The law provides that within a period of five years provision must be made in the city to accommodate all minors up to 18 years who are not graduates of a four year high school course."

The number of children in industry who are receiving education in the continuation schools is approximately 50,000.

#### PROGRAM OF LECTURES

February 25, 1926, 10:15 A. M. and 2:30 P. M.—The opening address by James A. Hamilton, Ph.D., Industrial Commissioner, New York State Department of Labor.

March 4, 1926, 10:15 A. M. and 2:30 P. M.—"What statistics show concerning accidents in New York State," by L. W. Hatch, Ph.D., Director, Bureau of Statistics and Information, New York State Department of Labor.

March 11, 1926, 10:15 A. M. and 2:30 P. M.—Safety from the standpoint of the Inspection Bureau. By Mr. James L. Gernon, Director, Bureau of Inspection, New York State Department of Labor.

March 18, 1926, 10:15 A. M. and 2:30 P. M.—The relation of industrial hygiene to accident prevention. By Leland E. Cofer, M.D., Director Bureau of Industrial Hygiene, New York State Department of Labor.

March 25, 1926, 10:15 A. M. and 2:30 P. M.—The relation of heating, lighting and ventilation to accidents. By C. T. Graham-Rogers, M.D., Bureau of Industrial Hygiene, New York State Department of Labor.

April 1, 1926, 10:15 A. M., and 2:30 P. M.—The relation of physical condition and mentality to accidents. By R. S. McBirney, M.D., Bureau of Industrial Hygiene, New York State Department of Labor.

April 15, 1926, 10:15 A. M. and 2:30 P. M.—Clothes and diet with relation to accident prevention. By May R. Mayers, M.D., Bureau of Industrial Hygiene, New York State Department of Labor.

April 22, 1926, 10:15 A. M. and 2:30 P. M.—Accident and disease hazards in Chemical Industry. By Carroll M. Salls, B.S., Ph.D., Chemical Engineer, Bureau of Industrial Hygiene, New York State Department of Labor.

April 29, 1926, 10:15 A. M. and 2:30 P. M.—Practical machine guarding. By Mr. Herbert L. Reid, Safety Inspector, Bureau of Industrial Hygiene, New York State Department of Labor.

May 6, 1926, 10:15 A. M. and 2:30 P. M.—Instruction in accident prevention by visualization. By Mr. Robert Northrup, Safety Inspector, Bureau of Industrial Hygiene, New York State Department of Labor.

May 13, 1926, 10:15 A. M. and 2:30 P. M.—The relation of women in industry to the accident ratio. By Miss Nelle Swartz, Director, Bureau of Women in Industry, New York State Department of Labor.

May 20, 1926, 10:15 A. M. and 2:30 P. M.—Lecture on Compensation. By Mrs. H. Dreyfus, Assistant to the Industrial Commissioner, New York State Department of Labor.

May 27, 1926, 10:15 A. M. and 2:30 P. M.—"Fitting the young worker to the job." By Richard A. Flinn, M.A., Chief, Division of Employment, New York State Department of Labor.—*Bulletin of State of New York Department of Labor*. Office of Industrial Commissioner, Capitol, Albany.

#### TOBACCO GIVES SYMPTOMS OF GASTRIC ULCER

In 1923 Sir Berkeley Moynihan called attention to the fact that symptoms suggesting duodenal ulcer may be caused by the excessive

use of tobacco. In his lecture delivered before the Hunterian Society of London he said: "We have found that in many cases of ulcer a hyperchlorhydria is present and may be extreme. If a Rehffuss meal is given to a patient accustomed to tobacco at a time when he is not smoking, his normal 'curve' may be recorded; if a second meal is given while a pipe is being smoked, the increase of gastric acidity is very striking. In some patients the excess of free HCl may be slight, but its secretion continues over a longer period; in a few cases these two effects of tobacco, increased secretion and increased duration of secretion are combined. An 'attack' of duodenal ulcer often follows an orgy of tobacco; and many attacks are checked by abstinence from it. 'Attacks' ascribed to duodenal ulcer are sometimes due only to nicotine poisoning, and I have not seldom rescued patients from impending operation by noticing their deeply stained fingers and by prescribing for them a respite from tobacco for a few months and a diminished indulgence in it forever. The close mimicry of 'hunger-pain' in nicotine intoxication appears to have escaped notice."

Eusterman, from the Mayo Clinic (*Surgery, Gynecology and Obstetrics*, February, 1926), confirms Moynihan's observation and states that "all the subjective and roentgenologic signs of duodenal ulcer can be produced by the excessive use of tobacco."—*The Queens Hospital Bulletin*.

#### METROPOLITAN OPERA COMPANY STARS IN BOSTON CONCERT FOR BENEFIT OF PHYSICIANS' HOME

MEMBERS of the medical and surgical profession throughout New England will be interested in the announcement that five of the greatest artists of the Metropolitan Opera Company will come to Boston on Monday, May 24, to give a concert for the benefit of the New England unit of the Physicians' Home.

The stars who will appear at the Boston Opera House are Mme. Frances Alda, soprano; Giovanni Martinelli, tenor; Giovanni Martino, baritone; Dorothea Flexer, contralto; Albert Spalding, violinist. With them there will appear noted Boston musicians and singers.

Many prominent Boston society women are aiding in the presentation of this concert. The patronesses are headed by Mrs. Alvan T. Fuller, wife of Governor Fuller. Among the other patronesses are Mrs. Curtis Guild, Mrs. Timothy Adamowski, Mrs. Clarence R. Edwards, Mrs. Horace Morison, Mrs. William W. Taff, Mrs. Charles R. Butler, Mrs. Frances E. Slatery and Mrs. Merle Graves.

Leading surgeons and physicians have manifested their interest in glowing endorsements of both concert and the campaign for funds for the Physicians' Home.

In his endorsement of the campaign Governor Fuller wrote as follows:

"The movement to establish an endowment fund for a Physicians' Home is one that should commend itself to the public generally. The splendid service which is rendered by physicians and surgeons in every community throughout our great country is such that the appeal should be successful beyond all question. The service of the country doctor as he goes his rounds in all kinds of weather is the highest type of service to humanity. It is a most worthy cause."

Funds raised in the campaign to be conducted throughout New England immediately following the concert by the Metropolitan Opera Company stars at the Boston Opera House will be used to complete the purchase of the beautiful estate, "Dounsburry Manor" at Ridgefield, Connecticut. This estate of more than 150 acres has a palatial residence and several cozy cottages. In the grounds there are magnificent formal gardens and pretty spots where old fashioned flowers bloom in profusion. Private bridle paths and sparkling fountains also add to the interest and beauty of the place.

In the main house and cottages a large number of physicians and their dependents can be lodged in such comfort that their days of retirement will be spent in tranquility. Completely equipped laboratories where they may busy themselves in study and research will add to the attractiveness of the home.

The establishment of the Physicians' Home at Dounsburry Manor is for the purpose of giving a haven of rest and security to those physicians and surgeons of the New England states, New York and New Jersey, who find themselves in difficult financial straits when they reach the age of retirement from active duty. Other homes will be located in other places to care for the aged and incapacitated medical and surgical men of other regions.

The chairman of the National Endowment Fund for the Physicians' Home is the Hon. George Gordon Battle of New York. The officers of the National Fund are Robert T. Morris, M.D., president; William H. Dieffenbach, M.D., vice-president; Albert G. Weed, M.D., treasurer; Silas F. Hallock, M.D., secretary. The directors are Warren Coleman, M.D.; William H. Dieffenbach, M.D.; Max Einhorn, M.D.; Wolff Freudenthal, M.D.; Silas F. Hallock, M.D.; J. Richard Kevin, M.D.; Stephen V. Mountain, M.D.; Ralph Waldo, M.D.; Robert T. Morris, M.D.; Albert G. Weed, M.D.; Ward Bryant Hoag, M.D.; George Dow Scott, M.D.; George David Stewart, M.D.; James S. Stone, M.D.

Among the many names on the list of national sponsors are the Hon. Charles Evans Hughes, the Hon. Alfred E. Smith, Wendell C. Phillips, M.D.; Charles H. Mayo, M.D.; Walter P. Bowers, M.D.; Samuel Brown, M.D.; the Rev. S.

Parkes Cadman, D.D.; the Rev. Francis P. Duffy, D.D.; Alexander Lambert, M.D.; the Hon. Royal S. Copeland, M.D.

The New England campaign headquarters are at 120 Boylston Street, Boston.

## RECENT DEATHS

**JENKINS**—DR. CHARLES EDWIN JENKINS, a retired member of the Massachusetts Medical Society, died at his home in Lynn, April 23, 1926, following an illness of 18 months.

Dr. Jenkins was born in Chatham, N. H., 71 years ago, and attended Dartmouth Medical School, from which he was graduated with the class of 1881. He served as an interne at Bellevue Hospital, New York City, and went to Lynn in 1882 and established a practice. He was a founder of Union Hospital, and a member of its staff up to a year ago, when he retired because of illness.

Dr. Jenkins was a member of the Lynn Fraternity of Physicians and Surgeons, Bay State Lodge of Odd Fellows and the Lynn Red Cross. He is survived by his daughter, Mrs. Lillian Putney of Lynn.

**STRAW**—DR. AMOS GALE STRAW, a Fellow of the Massachusetts Medical Society, died at Manchester, N. H., March 13, 1926, aged 61.

He was a graduate of Harvard Medical School in 1890, was bacteriologist of the Manchester Board of Health and was on the staffs of the Notre Dame, Beacon Hill and Balch hospitals, and president of the staff of the Elliot Hospital. Latterly he had served as roentgenologist to the United States Veterans Hospital at Northampton.

**GIBBS**—DR. SAMUEL WHEELEY GIBBS, a graduate of Dartmouth Medical School in 1890 and a practitioner in Fall River for many years, died in that city, April 26, 1926, at the age of 71.

## OBITUARIES

### RESOLUTIONS ON THE DEATH OF DOCTOR W. H. DEVINE

DOCTOR WILLIAM H. DEVINE had been connected with the Carney Hospital for 44 years. First as a house officer, later he became visiting physician to out-patients, visiting physician to house patients, consulting physician, and finally President of the Governing Board.

Outside of his family and his practice, the Carney Hospital came next in his affections.

For more than twenty years of his life he was associated with the Massachusetts Militia, served in the Spanish-American War, and eventually became Surgeon General. He was retired with the rank of Major General M.V.M. the highest rank that could be obtained in that service.

In his later years he became Director of Medical Inspection in the public schools of Boston and placed that department upon its present basis of high efficiency.

The following resolution is offered by your committee to be spread upon our records:

*Whereas*—It has pleased an all wise Providence to remove from our midst Doctor William H. Devine, and

*Whereas*—Carney Hospital has lost a very

sincere friend whose gentle manner and upright qualities endeared him to everyone with whom he came in contact.

Therefore—Be it resolved that the Governing Board of Carney Hospital express by this inadequate means their sense of the deep loss which they have sustained and that the Secretary of the Board convey to his family our sincere sympathy in their bereavement.

Committee:

EDWARD D. HURLEY, M.D.  
DANIEL F. MAHONEY, M.D.

### IRVIN HARRIS FARR, M.D.

DEATH has claimed Dr. Irvin H. Farr, formerly city physician of Holyoke. He died in the city hospital of that city, after an illness of several weeks, April 23, 1926, at the age of 43.

Dr. Farr was born in Holyoke, August 12, 1882, the son of Mr. and Mrs. Hoyt F. Farr. He was graduated from the local public schools, later entering Tufts College and subsequently Dartmouth Medical School where he received his M.D. in 1906. After a brief experience in several hospitals he settled in Holyoke in 1908, establishing a large practise. He was elected city physician in 1909 and 1910 by the Board of Aldermen, establishing a record for faithful service. Dr. Farr was an active member of the Masonic order and the Shriners. He was a well known radiologist, being particularly active in the Holyoke City Hospital for 12 years. He joined The Massachusetts Medical Society when he settled in his native city and was a member of the American Medical Association. He took a prominent position in the Radiological Society of North America and was a member of The New England Roentgenological Society. Early in his practise Dr. Farr served for a time in the Holyoke Tuberculosis Hospital as a supervising physician.

Dr. Farr leaves a wife who was Miss Ruby Beeching.

## CORRESPONDENCE

### FRANCIS PARKMAN AND THE FACULTY

Mr. Editor:

Few great historians have suffered such distressing conditions of ill health as did Parkman at one time in his life, and the way in which he met and conquered these conditions is truly marvelous.

John Fiske\* tells us in his essay on Parkman that he "had to contend with a triple-headed monster. First, the weakness in his eyes, which had come to be such that he could not keep them open to the light while writing his own name; secondly, the incapacity for sustained attention; and thirdly, the indisposition to putting forth mental effort."

"Evidently the true name of this triple-headed monster was nervous exhaustion; there was too much soul for the body to which it was yoked."

All ordinary reading and writing was out of the

question, but Parkman was not discouraged. "He caused a wooden frame to be constructed of the size and shape of a piece of letter paper. Stout wires were fixed horizontally across it, half an inch apart, and a movable back of thick paste-board fitted behind them. The paper for writing was placed between the paste-board and the wires, guided by which, and using a black lead crayon, he could write not illegibly with closed eyes. . . . The length of each reading, never without injury, much exceeding half an hour, and periods of several days frequently occurred during which he could not listen at all. Notes were made by him with closed eyes, and afterwards deciphered and read to him until he had mastered them. For the first half year the rate of composition averaged about six lines a day."

Parkman's experience with the numerous physicians he consulted concerning his health is told in his own words as follows: "The Faculty of Medicine were not idle in displaying that exuberance of resource for which that remarkable profession is justly famed. The wisest, indeed, did nothing, commending his patient to time and faith, but the activity of his brethren made full amends for this masterly inaction."

"One was for tonics, another for a diet of milk, one counselled galvanism, another hydropathy. One scarred him behind the neck with nitric acid, another drew red-hot irons along his spine, with a view of relieving that organ. Opinion was as divided as practice. One assured him of recovery in six years, another thought that he would never recover. Another, with grave circumlocution, lest the patient should take fright, informed him that he was a victim of an organic disease of the brain which must needs dispatch him to another world within a twelvemonth; and he stood amazed at the smile of an auditor who neither cared for the announcement, nor believed it."

Despite all the gloomy prognostications of his physicians, Parkman was completely successful in shaking off the extreme grade of neurasthenia from which he suffered, which was brought on by his constant overwork during a period of years.

His work in history, some of which, being accomplished under seemingly impossible conditions, reminds us of that of Laennec in medicine, under the trial of physical ailments which would have completely discouraged any ordinary man.

The book which Parkman labored over, under the most insuperable obstacles, and successfully finished, was "The Conspiracy of Pontiac."

Perhaps no higher praise has ever been given by one historian to another than that of Fiske, in speaking of this book. He says: "Strong in its individuality, and like nothing else, it clearly belongs, I think, among the world's few masterpieces of the highest rank, along with the works of Herodotus, Thucydides, and Gibbon."

Very truly yours,

WM. PEARCE COUES, M.D.

April 22, 1926.

### NOTES FROM THE NATIONAL CAPITAL

(From Our Washington Correspondent)

#### THE MATERNITY AND INFANCY ACT

Operations under the Act of Congress popularly known as the Sheppard-Towner Law, and more exactly as the Federal Maternity and Infancy Act, will come to an end on June 30, 1927. This law, granting Federal subsidies to the States for the promotion of maternity and infant hygiene, was passed on November 23, 1921, appropriations to be available for a five-year period beginning July 1, 1922. The law has been accepted by 43 States, all except Connecticut, Kansas, Illinois, Maine and Massachusetts, the last named having contested the law in the courts in 1923.

\*Fiske, John: A Century of Science, VIII, pp. 194-264.

The United States Supreme Court decided, however, that the Commonwealth did not have a status sufficient to prosecute this cause in the court, and did not actually pass upon the constitutionality of the law.

A bill (H. R. 7555) to extend the operation of this law for an additional two years was passed in the House of Representatives on April 5, but had not passed the Senate up to the end of April. The action in the House was taken under a suspension of the rules and was preceded by just 40 minutes of discussion, divided equally between proponents and opponents of the measure. Mr. Andrew of Massachusetts opposed the bill as "futile extravagance" and was supported in his opposition by Representatives Madden of Illinois, Tucker of Virginia, Mills of New York, and others. On the other hand, the bill was supported by Representatives Newton of Minnesota, Merritt of Connecticut, Barkley of Kentucky, and others. The House voted, nevertheless, by 218 to 44, to suspend the rules and pass the bill. The Senate Committee on Education and Labor, to which the bill was referred, has, according to Senator Sheppard (*Congressional Record*, page 7254), voted adversely on it, but the Senator states that it will be brought before the Senate for discussion and decision during the present session.

#### LICENSING CHIROPRACTORS IN THE DISTRICT OF COLUMBIA

A bill (H. R. 9055) to regulate the practice of chiropractic in the District of Columbia was reported to the House of Representatives on April 26. This bill would authorize licenses to members of this cult who had a high school education and a three-year course in chiropractic, each of these "years" consisting of six months. Licenses would be granted, however, to chiropractors who had already been practicing for two years, regardless of qualifications or lack of them. A somewhat similar bill in New York was recently, according to the *New York Tribune*, laughed off the floor of the Assembly and defeated by an overwhelming vote. The District of Columbia, as the seat of the national government, is sometimes expected to have model legislation appertaining to it. If the nation's capital is to set an example to the rest of the country, a bill such as this chiropractic measure deserves defeat.

#### OTHER FEDERAL LEGISLATION OF INTEREST TO PHYSICIANS

Action on the Parker bill (H. R. 10125) for the correlation of Federal health agencies seems unlikely at this session, as the Director of the Budget has refused to give the measure his approval. The Bureau of the Budget sanctions millions of dollars for prohibition enforcement and hundreds of thousands for many other specific purposes, but a matter involving perhaps \$10,000 for the promotion of public health is said to be "contrary to the President's financial policy."

A bill (H. R. 10823) to require proper labelling of dangerous caustic or corrosive substances was reported in the House on April 1. This is not the measure sponsored by the American Medical Association, as the bill prepared by this organization is before the Senate as S. 2320, having been favorably reported some time ago.

Hearings on an anti-vivisection bill were to be held by a Senate committee on May 4. This measure bobs up every few years, as is the case with similar legislation in Massachusetts.

#### REORGANIZATION OF INDIAN MEDICAL SERVICE

The Secretary of the Interior, Dr. Hubert Work, has arranged with the Surgeon-General of the Public Health Service of the Treasury Department for assistance in reorganizing the medical division of the Office of Indian Affairs. Dr. M. C. Guthrie has been detailed by the Surgeon-General to supervise this work and will attempt to place the Indian Medical

Service, comprising some 200 physicians, on a more efficient basis.

#### BULLETIN ON RURAL HOSPITALS

The United States Department of Agriculture has issued a 46-page bulletin on Rural Hospitals (*Farmers' Bulletin* 1485). It was prepared in the Bureau of Agricultural Economics of the Department by Mr. Wayne C. Nason, assistant economic analyst. The pamphlet traces the origin and development of rural hospitals, gives arguments for establishing them, discusses the shortage of country doctors, outlines requirements of the hospitals, and describes a number of specific examples. In his conclusion the author states: "Far-seeing leaders of the medical profession not only deplore the lack of doctors and hospitals in rural communities but are actually attacking the problem. With the general establishment of rural hospitals, together with the resultant aid to the return of rural doctors, the health and social phases of equality of agriculture with other industries will be nearer accomplishment."

#### MISCELLANEOUS ITEMS

Major-General Merritt W. Ireland has been reappointed by President Coolidge as Surgeon-General of the Medical Department of the Army for another four years and this appointment was confirmed by the Senate on April 8.

Surgeon-General H. S. Cumming of the Public Health Service sailed for Europe on April 17 to attend the International Sanitary Conference in Paris.

The Secretary of Labor has called a conference on industrial accidents to be held in Washington July 14 to 16. This is intended to broaden the present scope of co-operative work between the Bureau of Labor Statistics and the various State accident boards.

A conference on food habits was called in Washington by the chief of the Bureau of Home Economics of the Department of Agriculture on April 17. It was attended by nutrition experts and dietitians.

The United States Supreme Court has recently held unconstitutional a Pennsylvania law prohibiting the use of shoddy in bedding, on the grounds that such legislation cannot be sustained in the interests of public health.

#### LONDON LETTER

(From Our Own Correspondent)

London, April 14, 1926.

#### MILK AND THE VITAMINS

At the annual conference of the Faculty of Insurance held in London on April 11, Dr. E. Graham Little, M.P., described the progress made in the direction of national health. He observed that very much still remained to be done, and in particular the conditions of our milk supply were a reproach to the nation.

In connection with the British milk situation Dr. M. J. Rowlands contributed to the *Health Bulletin*, the official organ of the New Health Society, for March, an illuminating article on milk and tuberculosis in which he expressed some original opinions. He directed attention to some of the important facts showing the effects of the lack or deficiency of the vitamin content of the diet of dairy cows and the consequences. First, he quoted a statement by certain veterinary surgeons that 70 to 80 per cent. of dairy cows in Great Britain suffer from tuberculosis. While this statement seems somewhat exaggerated, there is little doubt that there are more tuberculous cows in Great Britain than in any other country in the world and as a natural corollary there is more tuberculosis of bovine origin amongst the young.

The cows become infected with the tubercle bacillus

in a way readily admitting of explanation. Their diet during the winter months is almost wholly a non-vitamin diet. This lowers their resistance against disease, which is still further lowered by the drainage of very large quantities of milk. They thus become highly susceptible to infection, not only by the tubercle bacillus but to other diseases and disorders, or rather their milk in addition to infecting with the tubercle bacillus is deficient in those vitamins which are essential to the good health of young children, and, milk being their chief food, these children do not ingest sufficient vitamin content to render their vital resistance to disease strong. When in the course of time the udders of these tuberculous cows become the seat of active tuberculosis, then the infection is transmitted to the milk and thereby conveyed to the general population, especially to the young, who are the largest consumers of milk. The significance of the infected milk is that bovine tuberculosis is easily transmittable to the young of the human species.

Dr. Rowlands argues that the true solution of the milk problem is to feed the breeding animals with sufficient vitamins, A and B in particular, to replace the drain on their vitality by the excessive production of milk. Moreover, Dr. Rowlands claims that he has effected this object successfully in his own dairy herd by replacing by means of a suitable diet the vitamins depleted from the system by milk production.

#### THE CONTROL OF INFECTIOUS DISEASES

At a meeting of the Section of Medicine of the Royal Society of Medicine held in London on March 23 the control of infectious diseases was discussed. Among those who took part in the discussion was Dr. E. W. Goodall, who said that to talk of controlling infectious diseases was to talk loosely. One did not control the disease; what were controlled were the actions and the circumstances surrounding the sufferer from the disease. Efforts proved to be futile had been directed against the micro-organism, to the neglect of other methods, for there was a tendency to consider not only that the microbe was the cause of the disease but was the disease itself. Only in the case of diphtheria had the mortality been diminished by therapeutic measures. In regard to the death rate from pneumonia and influenza there was little cause for satisfaction. The decrease of the scarlet fever mortality he attributed to a lessened virulence. He pleaded for a continuous close study of the natural history of these diseases as affording the most hope for improvement, as bacteriology had not been of so much help as was expected. Of all the measures adopted he thought that the most important was that of rendering ourselves immune from attack. In the case of measles this had not been done in England by obtaining blood serum from the measles patient, and it might prove a somewhat formidable proposition, seeing that it required the serum of about 300 children to immunize 2000 to 3000 children. Vaccination against smallpox was largely falling into abeyance, and the hopes in regard to protection by immunization on a large scale were by no means bright. The toxin-antitoxin method, applied on a small scale, had been shown to be of great value.

#### NUMBER OF CASES OF ENCEPHALITIS LETHARGICA IN ENGLAND AND WALES

In reply to a question put to the Minister of Health as to the number of cases of encephalitis lethargica in England and Wales during each of the years 1922, 1923, 1924 and 1925, Mr. Neville Chamberlain replied that the number of cases notified in England and Wales were as follows: 1922, 454; 1923, 1025; 1924, 5039; 1925, 2,635.

#### DRUG ADDICTION

At a meeting of the British Society for the Study of Intoxication held in London on April 14 last, Sir

William Wilcox, president, and an authority on toxicology, discussed the subject of drug addiction.

Sir William pointed out that drug addiction was not very prevalent in Great Britain itself, but parts of the British Empire were places where addiction drugs were being grown and produced, and in parts of the Empire drug addiction was very prevalent.

In America drug addiction was a very serious problem indeed, and it had been estimated that in the United States there were over 1,000,000 drug addicts, and that in the city of New York 1.8 per cent. of the population were addicts. Sir William said that drug addiction was a disease rather than a vice, and, like many other diseases, it was infectious. It was spread by psychotherapeutic methods, one person influencing another. Drug addiction was a real menace to the world, and it was necessary that Britain should play its part in the fight against this menace. It was a world-wide question. The speaker went on to say that we were immeasurably more successful in Britain in controlling traffic in addiction drugs than Americans were. An enormous amount of drugs got to the public in America by illegal means. It was of the utmost importance that members of the medical profession and students should realize that it was only in exceptional cases that morphia and such drugs should be prescribed, especially if used hypodermically. Other drugs should, if possible, be administered, and these dangerous drugs should never be employed for the relief of mental strain, worry, grief or distress. As a profession, doctors were extraordinarily careful in the prescription of addiction drugs. No person should take any of these drugs out of curiosity or as a stimulant. Sometimes people took small doses of morphia or opium before undergoing some great mental strain. He knew of a brilliant man, who had one of the strongest wills of his experience, who took morphia for pain and said: "Other people must not take it, but I have a strong will." He had been an addict for fifteen years. Sir William did not believe that anyone had a strong enough will to withstand drug addiction if they took the drug for one month or more. The finest brains in the world became affected.

#### ANNUAL REPORT OF ROYAL FREE HOSPITAL

The Royal Free Hospital in London is the hospital in which the women being educated and trained as physicians and surgeons in the Women's Medical School in London, the only women's medical school in the world, receive their clinical training. It is a large, well managed hospital, with a magnificent staff mostly composed of women, but so far as financial standing is concerned is in a plight similar to most of the London hospitals. That is, it is very short of money. Since Lord Riddell has been the president of the hospital and has contributed his great organizing powers to the task of placing the institution on a better financial basis, the situation has improved considerably.

On April 13 last the work accomplished during the year by the hospital was reviewed at the annual court of governors under the presidency of Lord Riddell.

Mr. Alfred Layman, the chairman, in submitting the annual report, said that it was a fairly satisfactory one, the only thing being that they still wanted money.

Lord Riddell, in replying to a vote of thanks, said that each day the hospital treated nearly 700 persons, in addition to the in-patients. The total out-patients' attendance was 223,617, but their satisfaction with those figures was tempered by the fact that the cost per treatment had gone up. The report would show that the hospital was one of the most prolific mothers in London, and produced 13 to 15 babies a week. Unfortunately, they could not always spread them equally over the week, with the result that on one day there were ten babies. They were still very short

of money, the deficit last year being £3000. They were holding a dinner shortly and hoped by that means to replenish their depleted coffers.

#### MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

##### DISEASES REPORTED FOR THE WEEK ENDING APRIL 24, 1926

Anterior poliomyelitis	2	Pneumonia, lobar	181
Chickenpox	84	Scarlet fever	259
Diphtheria	50	Septic sore throat	5
Dog-bite	2	Suppurative conjunctivitis	4
Encephalitis lethargica	2	Syphilis	28
Epidemic cerebrospinal meningitis	2	Trachoma	3
German measles	291	Trichinosis	2
Gonorrhea	75	Tuberculosis, pulmonary	120
Influenza	96	Tuberculosis, other forms	24
Malaria	1	Tuberculosis, hilum	2
Measles	832	Typhoid fever	7
Mumps	104	Whooping cough	327
Ophthalmia neonatorum	36		

#### CONNECTICUT DEPARTMENT OF HEALTH

##### MORBIDITY REPORT FOR THE WEEK ENDING APRIL 24, 1926

Measles	571	German measles	21
Last week	460	Influenza	269
Scarlet fever	81	Mumps	11
Last week	105	Paratyphoid fever	2
Diphtheria	13	Pneumonia, lobar	60
Last week	12	Poliomyelitis	1
Diphtheria bacilli carriers	1	Septic sore throat	1
Whooping cough	50	Tetanus	1
Last week	91	Tuberculosis, pulmonary	33
Typhoid fever	1	Tuberculosis, other forms	8
Last week	0	Gonorrhea	9
Bronchopneumonia	50	Syphilis	8
Chickenpox	36		

#### NEWS ITEMS

**BERKSHIRE DISTRICT NEWS ITEMS**—Dr. Russell A. Woodruff is seriously ill at his home on Bartlett Avenue, Pittsfield. He was convalescing from his illness of last fall when he slipped from a high porch and has not been able to work since.

Dr. Henry Colt has returned to his practice after a trip to the Pacific coast, where he visited several hospitals.

Dr. Orlando J. Brown of North Adams, Dr. H. N. Archibald of Cheshire and Dr. W. J. Tucker of Hinsdale have returned from their winter sojourn in Florida.

**APPOINTMENT OF DR. FRED RATES LUND**—Dr. F. B. Lund has resigned from the surgical staff of the Boston City Hospital and has accepted an appointment as chief of the surgical staff of the Carney Hospital.

Dr. Lund has been associated with the development of modern surgery at the Boston City Hospital during a large part of his career and will bring to the Carney Hospital the product of an extensive and scientific surgical practice.

The *Boston Herald* pays this tribute to Dr. Lund:

Dr. Fred Bates Lund, one of the country's noted surgeons, surgeon-in-chief at the Boston City Hospital, and for nearly 30 years identified with that institution, has resigned to become chief of the surgical staff at the Carney Hospital. The change will take place at once.

He is a man of diversified interests in connection with his profession, in the early practice of which he soon gained the reputation of being an innovator of technique, whose work resulted in great successes, particularly in abdominal surgery. Because of this alone, during his years at the City Hospital, medical men have come from all over the land to watch and study his operations.

#### NOTED AS SURGEON

He has stood out prominently as a great surgeon, and as a man vitally interested in all phases of hospital work and interests. Since his graduation from the Harvard Medical School 35 years ago he has been a teacher of surgery at the City Hospital, a lecturer on anatomy at Harvard, a district physician to the Boston Dispensary, and a staff member at the Massachusetts General Hospital.

In addition to that he is a member of the Library Committee and the Clinical Club, and has been president of the Surgical Section, Massachusetts Medical Society, Suffolk District. He is also a member of the Burrell Ether Prize Committee.

He is a member of the American College of Surgeons, American Medical Society, Massachusetts Medical Society, New England Surgical Society, Society of Clinical Surgery, American Surgical Association, and the American Gastroenterological Society. At the hospital he was president of the senior staff, and he has always been an active contributor to medical journals. He also served as a member of the Medfield Insane Asylum Commission.

During the war he was overseas as a member of the Harvard unit in charge of the British hospital base at Boulogne, and was also a member of the General Medical Board of the Council of National Defense. A week after this country entered the war he was commissioned a major in the Medical Reserve Corps, and did not a little work here as an examining physician before he was ordered to Camp Wheeler, Ga., as director of the surgical service.

#### NOTICES

##### SUMMER ADDRESSES

WHEN notifying the Massachusetts Medical Society or the *BOSTON MEDICAL AND SURGICAL JOURNAL* of change of address please indicate whether the new address is permanent or temporary. If it is for the *summer only* please give this information and define dates.

Since the Treasurer of the Massachusetts Medical Society is coöperating with the *BOSTON MEDICAL AND SURGICAL JOURNAL* in its endeavor to keep all records complete and up-to-date this information will be of value and will in some instances prevent error.

E. F. MAHADY COMPANY has announced its purpose to move from the present location at 671 Boylston Street. This firm will be at 831 to 857 Boylston Street after June first.

## REPORTS AND NOTICES OF MEETINGS

### THE NORFOLK DISTRICT MEDICAL SOCIETY

THE annual meeting of The Norfolk District Medical Society will be held at the Wollaston Golf Club, May 11, 1926. Opportunity will be given the members to play golf in the afternoon and those desiring to do so will please communicate with Dr. C. E. Emery of Dorchester.

The Executive Committee has planned a simple good time and feels that a get-together meeting with golf in the afternoon, dinner and a short talk will be as welcome to you as a long program. Individual notices to follow.

FRANK S. CRUICKSHANK, M.D., *Sec.*

### ESSEX NORTH DISTRICT MEDICAL SOCIETY

#### CENSORS' MEETING

THE censors of the Essex North District Medical Society will meet for the examination of candidates at the Hotel Bartlett, 53 Main St., Haverhill, Mass., (Telephone 8710) Thursday, May 6, 1926, at 2 o'clock sharp.

Candidates should make personal application to the secretary and present their medical diploma at least one week before the examination.

J. FORREST BURNHAM, *Secretary*.  
567 Haverhill St., Lawrence, Mass.

### SUFFOLK DISTRICT MEDICAL SOCIETY

#### CENSORS' MEETING

THE censors of the Suffolk District Medical Society will meet for the examination of candidates at the Medical Library, No. 8 The Fenway, Thursday, May 6, 1926, at 4:00 o'clock.

Candidates should make personal application to the secretary and present their medical diploma at least one week before the examination.

ARTHUR H. CROSBIE, *Secretary*.  
526 Commonwealth Avenue, Boston.

### TRUDEAU SOCIETY

THE next meeting of The Trudeau Society of Boston will be held on May 11, 1926, at 8:15 P. M., in Sprague Hall, The Medical Library, 8 The Fenway, Boston, Mass.

The paper will be by Dr. Edward O. Otis. Subject—Symptomatic Treatment of Tuberculosis.

An active discussion is promised.

Physicians, Medical Students and Nurses are cordially invited.

GEORGE S. HILL, *Secretary*.

### THE NORFOLK DISTRICT MEDICAL SOCIETY

THE Board of Censors of the Norfolk District Medical Society will hold a meeting for the examination of applicants for membership in the Massachusetts Medical Society at Roxbury Masonic Temple, 171 Warren St., on Thursday, May 6, at 4 P. M.

N.B.—Candidates must present their diplomas for examination by the Censors.

### ESSEX SOUTH DISTRICT MEDICAL SOCIETY

THURSDAY, May 6. Censors meet at Salem Hospital at 3:30 P. M. Candidates for examination should present their diplomas to the Secretary at once.

Tuesday, May 11. Annual meeting at The Tavern, Gloucester. Dinner at 6:30 P. M.

Dr. Leo M. Davidoff will give an illustrated talk on "A Trip to the Far North with Mac-Millan."

Lady guests of members invited.

R. E. STONE, *Secretary*.  
221 Cabot St., Beverly, Mass.

### POSTPONEMENT OF ANNUAL MEETING OF MIDDLESEX NORTH MEDICAL SOCIETY

THE Middlesex North Medical Society has postponed its annual meeting for two weeks. The meeting will be held on Wednesday, May 12, at the Lowell General Hospital.

### BOSTON HEALTH LEAGUE INC.

THE next meeting will be held May 12, at the North End Health Unit, 41 North Margin Street, at 3:30 p. m. Dr. Armin Klein, in charge of the Posture Study of the Children's Bureau, will speak on the subject: "Report of Posture Study in Boston." All members of the medical and nursing professions are cordially invited to attend.

### BOSTON MEDICAL HISTORY CLUB

THE annual meeting of the Boston Medical History Club will be held May 10, 1926, 8:15 P. M., at the Boston Medical Library, 8 The Fenway.

1. Election of Officers.
  2. Program: Laennec Centenary Meeting.
    - a. Life and Works, Dr. William P. Coues.
    - b. Mediate Auscultation and its Clinical Importance, Dr. William H. Robey.
    - c. Other Works of Laennec, Dr. H. Morrison.
    - d. Laennec Editions, Dr. Henry R. Viets.
- Members are requested to bring any Laennec items in their possession to the meeting.  
Light refreshments.

HENRY R. VIETS, M.D., *Secretary*.

### THE ANNUAL MEETING OF THE MID- DLESEX NORTH DISTRICT MEDICAL SOCIETY

This meeting will be held on Wednesday, May 12, 1926, at the Lowell General Hospital, at 4 P. M. A clinical meeting has been arranged by the staff of the hospital and it will be followed by the annual dinner and the election of officers.

T. A. STAMAS, *Secretary*.

### BERKSHIRE DISTRICT MEDICAL SOCI- ETY

THE annual meeting was held Thursday, April 29, 1926, at the Park Club, Pittsfield, Mass. Dinner at 6:30; meeting at 8:15 p. m.

Speaker: Richard Lewisohn, M.D., Attending Surgeon Mt. Sinai Hospital of New York City.

Subject: "Transfusion by the Citrate Method. Technique Indications and Results."

Discussion by: John W. Ghormley, M.D. of Albany, N. Y., Scott Lourd Smith, M.D. of Poughkeepsie, N. Y., T. Flournoy, M.D., and B. W. Paddock, M.D.

N. FINKELSTEIN, M.D., *President*.

### THE ANNUAL MEETING OF THE MASSA- CHUSETTS TUBERCULOSIS LEAGUE

This meeting was held Monday, April 26, 1926, in the John Hancock Life Insurance Building, Boston. At the morning session the President, Dr. Kendall Emerson, delivered an address and at its conclusion introduced Mr. Charles G. Keen, President of the Boston City Council, who, representing His Honor Mayor Nichols, welcomed the League to Boston. He spoke of his interest in the work of the League paying special attention to the problems of preventive medicine which had come under his observation in connection with the boy and girl scouts and camps for undernourished children.

The reports of the Educational Secretary, the Treasurer and especially of Mr. Frank Kiernan the Executive Secretary showed activity and progress in the work now being carried on.

Dr. Linsly R. Williams, Managing Director of the National Tuberculosis Association, delivered a very interesting address which, with the other special addresses, appear in another part of this issue.

After the Luncheon meeting addresses were given by the Honorary President, Edward O. Otis, M.D., George H. Bigelow, M.D., Massachusetts Commissioner of Public Health, and Melver Woody, M.D., Plant Physician of The Gilbert and Barker Manufacturing Company, Springfield.

The officers of the ensuing year are as follows:

President, Kendall Emerson, M.D.; Vice-President, Frederick D. Lord, M.D.; Honorary President, Edward O. Otis, M.D.; Honorary Vice-President, Vincent Y. Bowditch, M.D., William Cardinal O'Connell, George H. Bigelow, M.D.; Treasurer, Arthur Drinkwater; Assistant Treasurer, Romney Spring; Clerk of the Corporation, Executive Secretary, Frank Kiernan; Educational Secretary, Anna W. Johnson; Executive Committee, Rev. Walter F. Greenman, Term Expires 1926; Sydney Ashe, 1926; Francis P. Denny, M.D., 1927; Parker M. Cort, M.D., 1927; Roger I. Lee, 1928; Walter P. Bowers, M.D., 1928, and the officers.

### QUARTERLY MEETING OF THE MASSA- CHUSETTS ASSOCIATION OF BOARDS OF HEALTH

This meeting was held April 27th at 3 Joy Street, Boston, Mr. J. J. McGrath of Salem, President of the Association, presiding. Drs. Herbert Lombard, Clarence Seamon and Joseph H. Lawrence were elected members. Ten dollars was appropriated for the funds of the Massachusetts Central Health Council, the Chairman announced. The July meeting will be in Salem.

The President then introduced the speaker of the afternoon, Professor Hans Zinsser of the Harvard Medical School, who spoke on "Influenza." He said in substance that there are great differences of opinion regarding this disease. History shows that pandemics are due every ten or fifteen years following small ripples of the malady extending over comparatively large areas. These early waves are not generally recognized as influenza and the studies of the problems are difficult because no definite understanding of the disease has existed as is the case in epidemics of other general communicable diseases.

His own opinion is that influenza in uncomplicated and pure form, is not serious and exhibits mild respiratory symptoms. The later epidemics are very similar to the descriptions which have been given from time to time. When it has assumed its most serious aspects it is characterized by sudden onset so that the sufferer can tell almost the exact time of its invasions. The systemic symptoms are mild and especially characterized by muscular pains, and when uncomplicated, the patient recovers in three or four days and nothing more can be discovered on clinical examination.

He emphasized the point that the first wave is rarely recognized as true influenza since there are many mistakes in diagnosis.

The last big epidemic in 1918 started in Siberia and moved from east to west and in some cases was regarded as dengue or malaria. These early waves show enormous morbidity but small relative mortality. The secondary waves pre-

pare the way for complicating infections and then the disease becomes known to be influenza. This view, however, is not universally accepted, so that as far as etiology is concerned there is no consensus of opinion.

There are three chief possibilities: It may be due to Pfeiffer Bacillus which may be found to be an infection on top of a filterable virus, or as contended by some a filterable virus alone. While this theory has been advanced, he was convinced that at the present time it is impossible to prove that it starts with a filterable virus although this claim had been made. Another theory is that the Bacillus Pneumointeas a minute anaerobic organism is the specific agent of disease. Although not generally accepted, this idea is an interesting possibility. He believes that the Pfeiffer Bacillus is the most probable cause because it is present in a large number of cases during an epidemic and can be isolated from the depths of the lungs in influenza, pneumonia and other organs, although not generally found in mild clinical cases of influenza. It is found in broncho-pneumonia in children in association with whooping cough and in many cases of diphtheria as well as advanced cases of tuberculosis. The possibility of this being a causative agent cannot be excluded because of its association with many diseases.

Immunization by vaccination has not brought any favorable results. The problems of the present day call for careful reexamination of all factors involved in view of evidences and theories which have been tabulated.

It has been found that various strains have definite degrees of virulence. One very important question relates to the problems of the development of toxins during the disease. It is pretty certain that the influenza Bacillus does produce toxic substances sufficiently powerful to explain the symptoms. The question of antitoxin has been carefully studied and early experiments have not brought definite results, but this suggestion is being reinvestigated.

If we assume the etiological importance of either of these organisms we have to acknowledge certain lack of conclusive evidence because it has been found to be impossible to produce the disease in normal subjects under certain conditions. Animal experimentation has led to false conclusions and efforts to inoculate the human volunteers have not shown conclusive evidence. For example, the experiment in Boston Harbor when marines were brought into close contact with the patients they failed to develop the disease. It is well recognized that the infectious period is in the first few days of the disease and later the specific virus disappears so that from an epidemiological standpoint the danger of developing the disease is probably over after the first few days. This explains the failure of certain experiments. It will be impossible to prosecute the study on any

wholesale scale. It is an individual job and study must be made of individual cases.

In the next epidemic bacteriologists must be prepared to deal with it in an intensive fashion. So far as the epidemiology of this disease is concerned, we know very much about the peculiar characteristics. It is pandemic, it encircled the world in a very short time and cannot be confined to any single country. It travels with great speed, corresponding to the speed of the railroad and other means of communication. It extends along routes of passage and becomes serious often-times before the patient is willing to take to his bed. The massive infections come with the later waves. The first wave burns out rapidly and there is a very definite period before the larger and more serious waves develop. The individual waves are about thirty-three weeks apart.

Dr. Zinsser explained the likelihood of the rapid and general extension of the epidemic during the war by reason of the general movements of large bodies of people at that time. It is now generally known that the first mild ripple of the recent general severe epidemic was in 1917 and came to this country from the armies on the French front. The disease appeared to make its first invasion in 1918 at Olgethorpe and presented the same characteristics as seen in the disease in Spain, Germany, Bombay and Egypt, and this second wave was preceded by a mild one in the early spring of 1918, the more severe invasions coming in September and October of that year.

This second wave was most destructive as shown by respiratory complications underlying the typical symptoms.

The Surgeon General's report at that time showed that there were 600,000 cases with 23,000 deaths. Our mortality during that period was about five times as large as among the soldiers engaged in war in France.

Dr. Zinsser felt that the incubation time was short, probably two days, and transmission from individual to individual came about by close contact and not by any intermediate host. Certain areas were spoken of as immune and after the subsidence of the severe second wave there is usually a third wave which is more sporadic, has a lower mortality and gradually subsides. It is probable that there are more sporadic cases throughout the world at the present time than in former years. So far as individual immunity is concerned it is very hard to appraise, for many people have the disease several times. It is probable that immunity is of short duration, from three to twelve or even fifteen months. In all probability twelve or fifteen months after an attack no immunity exists.

It must be impressed on the medical profession that the disease is not regarded as serious so far as mortality is concerned until the sec-

ond more serious wave is in progress. It is very important that the first ripple of the disease should be recognized and the medical profession must be educated to recognize the existence of influenza wherever it exists. Doctors must understand that the infection is especially active during the first few days, that the immunity lasts for a short time only, and all possible help must be given to bacteriologists who may work on the early cases.

This great danger in the secondary infection finds its analogy in such cases as measles and the most important feature of treatment consists in putting patients to bed early. It should be recognized that there is no reasonable prospect of reducing morbidity because it is impossible to isolate these cases in the early stages. The people don't approve of the closing of theatres, stopping railroad trains and taking away the privileges of the ordinary person in business and social life. The mortality must be cut down by early and painstaking care of each individual case because the complications are especially responsible for the deaths. So far as prophylactic vaccination is concerned, there is little to be said because no evidence exists of its value and we can only hope for better preventive methods when the etiology is more generally understood.

After Dr. Zinsser's address Dr. George H. Bigelow said that we were most fortunate in having a Professor in a medical school who was conversant with public health problems. He felt that the reporting of cases of influenza was a clear index of the attention of physicians with reference to doubtful cases. He felt that as physicians become more loyal to the necessity of making frequent and definite reports of the existence of disease and the causes of death statistics will become much more valuable. He also felt that the present condition with reference to influenza was very much like that in the early stages of the 1918 epidemic because there were certainly more cases of the type of influenza this spring than the year before. So far as reports give an index of conditions, the peak of the present wave has been passed. He emphasized the suggestion made by Dr. Zinsser regarding the importance of having patients go to bed early and this applies especially to the more energetic population because the lazy people go to bed early anyway.

In the event of a serious epidemic he thought that the one great burden on society would be in organizing service for the patients who needed definite medical attention. He deplored the desire of the public to have health authorities do dramatic things and he felt that it was important at the present time to say definitely whether we are in the preliminary wave of a larger and more serious epidemic which may follow.

Dr. Victor M. Safford asked Dr. Zinsser as to his opinion whether the small mortality rate in people of about forty-five years of age in the 1918 epidemic could be construed as evidence of immunity, and second, whether he would recommend disinfecting mess kits of the soldiers. In reply Dr. Zinsser said that he would not regard the low mortality in persons about the age of forty-five as due to immunity; more probably it was due to better living conditions among the older people with less general exposure and that the mortality among young people was due to greater exposure. He did not believe that the disinfection of mess kits was very important.

In response to a question as to whether we may expect an epidemic next fall, Dr. Zinsser thought that statements should not be too specific and that we ought to maintain an expectant attitude because it is unwise to predict a calamity. We had better watch out in the early fall for an epidemic of this disease and take all possible measures to control it.

In reply to a question relating to greater mortality in some of the southern states, Dr. Zinsser felt that racial susceptibility was very important because it is perfectly well known that the colored people are especially susceptible to the disease.

Dr. Denny of the Brookline Board of Health raised the question that since few doctors are reporting cases as influenza in the present epidemic of respiratory disorders are we justified in thinking that this disease is the same as in 1918? He felt that the present epidemic showed little evidence of respiratory trouble whereas in 1918 patients began with severe cough as a prominent symptom and in a general way symptoms are very different from those observed in 1918.

Dr. Zinsser was not certain that it was the same as in 1918 but reasoning from historical evidence we should be suspicious for there seems to be the same sequence. He also felt that it was advisable for doctors to report the existence of the disease as it exists at the present time.

Dr. Mahoney, Commissioner of Health for the City of Boston, paid glowing tribute to Dr. Zinsser because of the instruction imparted and he felt that he had been more enlightened by reason of this address than from any previous study of the disease. Dr. Zinsser has contributed a very great service to the cause of the public health and he hoped by reason of the information imparted than any future epidemic will be dealt with in a more practicable way.

A rising vote of thanks was then tendered to Dr. Zinsser for his very interesting and instructive address.

FIFTIETH ANNUAL SESSION OF THE  
AMERICAN ASSOCIATION FOR THE  
STUDY OF THE FEEBLEMINDED

This meeting will be held in Toronto, Canada, June 3rd, 4th and 5th, 1926, King Edward Hotel.

PROGRAM

*Thursday Morning, June 3, 1926*

9:30 A. M.

Invocation.

Canon Henry J. Cody, D.D., LL.D., Chairman of the Board of Governors, University of Toronto.

Address of Welcome: Hon. Howard Ferguson, Prime Minister of Ontario; Hon. Thomas Foster, Mayor of Toronto.

Response to Addresses of Welcome: J. Morehead Murdock, M.D., Polk, Pa.

Appointment of Nominating Committee.

Reports.

Notices.

Section on "Mental Deficiency and Industry." Chairman: Charles Bernstein, M.D., Sup't. Rome State School, Rome, N. Y.

1. Industrial Possibilities of the Feeble-minded. C. S. Raymond, M.D., Ass't. Supt., The Walter E. Fernald State School, Waverley, Mass.
2. Adjustment of the Feeble-minded in Industry. Emily T. Burr, Ph.D., Vocational Adjustment Bureau, New York City.
3. The Application of Industrial Psychology to the Employment of the Feeble-minded. Donald A. Laird, Ph.D., Colgate University, Hamilton, N. Y.
4. The Technique of Job Analysis. A. F. Payne, Ph.D., Teacher's College, Columbia University, New York City.

*Thursday Afternoon, June 3, 1926*

2:00 P. M.

Section on "Research in Mental Deficiency." Chairman: Groves B. Smith, M.D., Ass't. Neuro-Psychiatrist, Henry Ford Hospital, Detroit, Mich.

1. The Neuro-Psychiatric Importance of the Personality Reactions of Mental Defectives. Thomas J. Heldt, M.D., Physician-in-charge of the Neuro-Psychiatric Division of the Henry Ford Hospital, Detroit, Mich.
2. Cerebral Accidents of Childhood—Their Relationships to the Problems of Mental Deficiency. Groves B. Smith, M.D., Ass't. Neuro-Psychiatrist, Henry Ford Hospital, Detroit, Mich.
3. Glycuresis in Mental Defectives. Alexander N. Bronfenbrenner, M.D., Pathologist, Letchworth Village, Thiells, N. Y.

4. A Study of Siblings. W. E. Blatz, M.D., Hamilton, Ont.

*Thursday Evening, June 3, 1926*

7:30 P. M.

Section on "The Relation of Social Inadequacy to Mental Deficiency." Chairman: Stanley P. Davies, Ph.D., Executive Secretary, Mental Hygiene Committee, State Charities Aid Association, New York City.

1. Social Inadequacy as Seen in the Defective Delinquent. Vernon C. Branham, M.D., Psychiatrist, State Commission for Mental Defectives, New York City.
2. A Study of the Factors Underlying Social Adaptation of Paroled Mental Defectives. Howard W. Potter, M.D., Clinical Director, Letchworth Village, Thiells, N. Y., and Crystal L. McCollister, former Parole Agent, Letchworth Village, Thiells, N. Y.
3. Community Responsibility and Mental Deficiency. William C. Sandy, M.D., Director, Bureau of Mental Health, Department of Welfare, Harrisburg, Pa.

*Friday Morning, June 4, 1926*

9:30 A. M.

Section on "Preventative Medicine in the Field of Mental Deficiency." Chairman: Benjamin W. Baker, M.D., Superintendent, Laconia State School, Laconia, N. H.

1. The Nature of Hereditary Mental Defect. Charles B. Davenport, Ph.D., Director, Dept. of Eugenics, Carnegie Institute of Washington, Cold Spring Harbor, N. Y.
2. Researches on Feeble-mindedness. Abraham Myerson, Boston, Mass.
3. Sterilization in its Relation to Mental Deficiency. H. H. Laughlin, Ph.D., Eugenics Record Office, Cold Spring Harbor, N. Y.

*Ladies' Luncheon*

12:30 P. M.

*Friday Afternoon, June 4, 1926*

Trip of Inspection to points of Scientific Interest.

*Friday Evening, June 4, 1926*

8:00 P. M.

Annual Dinner.

Address by the President, A. R. T. Wylie, M.D., Supt., Institution for Feeble-minded, Grafton, N. D.

*Saturday Morning, June 5, 1926*

9:30 A. M.

Section on "Mental Hygiene in the Field of Mental Deficiency." Chairman: George K. Pratt, M.D., Assistant to the Medical Direc-

tor, National Committee for Mental Hygiene, New York City.

1. The Application of Mental Hygiene Methods to the Feeble-minded, George K. Pratt, M.D., Ass't. to the Medical Director, National Committee for Mental Hygiene, New York City.
2. Word Blindness and Word Deafness in Children and Their Relation to Intelligence and Behavior, E. Bosworth McCready, M.D., Pittsburgh, Pa.

Annual Business Session  
11 A. M.

Saturday Afternoon, June 5, 1926  
2:00 P. M.

Section of "Education in the Field of Mental Deficiency." Chairman: Francis N. Maxfield, Ph.D., Department of Psychology, Ohio State University, Columbus, Ohio.

1. What Toronto is Doing for Handicapped Children, W. J. Tamblin, Principal, Boys' Auxiliary School, Toronto, Canada.
2. School Organization in Institutions, Edna R. Jatho, Superintendent, New Jersey State Home for Girls, Trenton, N. J.

#### SOCIETY MEETINGS DISTRICT MEDICAL SOCIETIES

*Bristol South District Medical Society*  
May 6, 1926—Annual meeting at New Bedford Public Library.  
6 P. M.

*Essex South District Medical Society*  
Thursday, May 6—Censors meet at Salem Hospital, 3:30 P. M.  
Tuesday, May 11—The Tavern, Gloucester. Annual meeting speaker to be announced.

*Essex North District Medical Society*  
May 12, 1926—The annual meeting at the Anna Jaques Hospital, Newburyport.

*Middlesex East District Society*  
May—Annual meeting, Colonial Inn, North Reading. Speaker, Dr. E. H. Place. Subject to be announced.

Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear.

#### BOOK REVIEWS

*The Histology of the More Important Human Endocrine Organs at Various Ages.* By EUGENIA R. A. COOPER, M.D., Demonstrator of Anatomy and Late Leech, Fellow of the Victoria University of Manchester. Late Research Student under the Medical Research Council. 119 pages. Illustrated. Humphrey Milford, Oxford University Press, 1925.

Dr. Cooper has summarized in this short book of 119 pages what she has learned of the changes of the human endocrine glands which occur in the different periods of life. This is a subject which has long needed systematic study, as we do not know at all definitely how these glands normally vary in appearance with progressing years. While it has never seemed to the reviewer that variations in the histology of the glands give a clear indication of the rate or na-

ture of secretion, it is nevertheless of great importance to know what the glands should normally look like. Dr. Cooper has attempted to study this and has gone a long way in the problem. It is unfortunate that the book is not illustrated by more high power drawings or photographs, as these would help markedly in understanding the variations.

However, to all who are interested in the development of the glands, of internal secretion during life this book will be of considerable interest, though it is not a completed study of the problem.

*Médicaments et Médications Cardiaques.* By H. VAQUEZ, Professor, Medical Faculty of Paris. Paris, J. B. Bailliere et Fils, 1925, 302 pages.

Twelve lectures by Professor H. Vaquez of Paris on the subject of cardiac drugs and on the treatment of heart disease have been assembled in book form by Theodoreseco, one of Vaquez' pupils. They do not pretend to be exhaustive, but there is a great deal of interest and information in them, and they are presented in an easy entertaining style. Any one particularly interested in the treatment of heart disease would do well to read this book, more especially the early chapters dealing with the drugs.

The first two chapters are concerned with digitalis, the third with strophanthus, strophanthin and ouabain, the fourth with quinidine and the fifth with miscellaneous drugs used in the treatment of cardiovascular disease, some with marked effect and others with little or no action. The historical survey of the development of the use of these various medicines is of especial interest, and the indications and methods for the use of digitalis and quinidine in particular are clear and in the opinion of the reviewer well put. Unusual attention is paid to strophanthin and ouabain which from the experience of Professor Vaquez appears justified. He urges its use in certain types of cardiac failure where digitalis is ineffective.

The last seven chapters deal with the treatment of particular cardiac conditions such as rheumatic endocarditis and pericarditis, arrhythmia, congestive failure, angina pectoris and hypertension, with a discussion of diet, rest, baths, and other methods besides drug therapy. It has been very refreshing to note the sound, sensible manner in which various methods or treatment are discussed, for example the use of diet, baths, high frequency electricity and diathermy in combatting hypertension.

Vaquez closes with an account of the surgical treatment of angina pectoris, and of the use of arsenic, bismuth, mercury and potassium iodide in cardiovascular syphilis.